May 1, 2012

SUBJECT: REQUEST FOR QUALIFICATIONS
FOR THE SUPPLY OF LED STREETLIGHT LUMINAIRES
VARIOUS LOCATIONS WITHIN NEW BRUNSWICK
SPECIFICATION NUMBER: LED-QUALIFICATION

Request for Qualifications are invited by NB Power Dist & Cust Serv for the supply of the above captioned. Please find the appropriate RFQ Document.

Request for Qualifications will be accepted until 1:30 pm, local time, May 18, 2012, and will be opened privately in the afternoon of the same day. Opening will be held in the Tender Area, 6th Floor, 515 King Street, Fredericton, New Brunswick.

Request for Qualifications must be submitted and signed by an officer of the company and must be received by the tender department by the specified acceptance time, Attention: Tender Coordinator.

Prior to the opening, please contact the Tendering Department at 506-458-3641 to confirm that your submission has been received at the above location.

It is the Respondent’s responsibility to ensure that their RFQ is deposited in the proper tender box at the above location.

NB Power Dist & Cust Serv reserves the right to reject any or all submissions.

Failure to comply with the Request for Qualifications documents shall result in rejection of your tender submission.

Yours truly,

NB Power Dist & Cust Serv
FRANCES SEELY
Buyer II
Telephone: (506) 458-4367
Fax: (506) 458-4089

FJS*
Encl.
REQUEST FOR QUALIFICATIONS
FOR THE
SUPPLY OF LED STREETLIGHT LUMINAIRES

May 1st, 2012

Deadline for Submissions: MAY 18th, 2012, 1:30 p.m. Atlantic Time
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1.0 The Project

The New Brunswick Power Distribution and Customer Service Corporation is pleased to invite Respondents to submit their qualifications for the supply of LED streetlight luminaires.

A glossary of terms used in the RFQ is attached as Appendix A.

1.1 Our Company

The NB Power Group provides New Brunswick with electricity through a diverse fleet of generating stations that is delivered to more than 380,000 direct and indirect customers via transmission and distribution power lines, substations and terminals.

New Brunswick Power Distribution and Customer Service Corporation ("NB Power") is responsible for operating and maintaining the distribution system. It is designated as the standard service supplier for the Province of New Brunswick and is obligated to provide standard services to residential, general service, wholesale, and industrial customers located throughout the province.

NB Power has had a long and successful history of serving the communities in New Brunswick. Maintaining NB Power's 72,000 +/- street lights is one of our most important tasks as it is indicative of the reliability, safety and performance of the company.

Additional information can be viewed on the NB Power corporate web site at www.nbpower.com. Each Respondent must be pre-registered via the corporate web site in order to provide a response to this RFQ.

1.2 Project Objectives and Description

The purpose of this RFQ is to pre-qualify Respondents who have the experience, capacity, and willingness to supply NB Power with LED streetlight luminaires having a minimum design life of twenty (20) years in order for NB Power to replace, approximately, 72,000 +/- existing horizontally mounted cobra head roadway luminaires owned by NB Power. It is the intention of NB Power that the Supplier will contract with NB Power for the supply of, approximately, 72,000 +/- units of the approved Product over a five (5) year term. The proposed schedule for replacing the luminaires is set out in Appendix B.

NB Power has established a number of objectives for the Project which are presented below, not in any specific order:

- That a safe, reliable, and high-quality Product that can perform as set out in the technical specification and can satisfactorily demonstrate a minimum design life of twenty (20) years be provided to NB Power;

- That the optimal value for money be obtained by NB Power; and

- That the Supplier can provide the Product in sufficient quantities to meet NB Power's objectives over the next five (5) years.
2.0 Selection Process and Schedule

The following section provides a brief overview of the process for selecting Proponents for the Project.

2.1 Selection Process Overview

The selection process will be conducted in two stages:

Stage 1 - RFQ

The RFQ is the stage in which Respondents are invited to submit a response to pre-qualify for the Project. The purpose of the RFQ stage is to arrive at a list of Respondents proposing a Product that meets the requirements set out herein who will be invited to prepare detailed proposals pursuant to the RFP.

NB Power reserves the right, in its sole discretion, to elect not to proceed with a RFP or Project, without incurring any cost or liability for costs and damages incurred by any Respondent.

Stage 2 – RFP

The RFP is the stage in which the Proponents will be invited to submit proposals to carry out the Project. The intention of the RFP stage is to identify the Preferred Proponent who will be asked to execute the Supply Agreement. A draft of the Supply Agreement will be contained in the RFP. The Preferred Proponent will be the Proponent whose response to the RFP is compliant and provides the optimal value for money for NB Power with consideration given to, among other things, risk, reliability and operating cost over the life of the Product. Details regarding the submission requirements for RFP responses and the factors to be considered in the evaluation of responses will be set out in the RFP.

2.2 Questions Regarding the RFP

All enquiries regarding the RFQ Document shall be in writing by letter, facsimile or electronic mail (email) and addressed as follows:

Letters

New Brunswick Power Holding Corporation
515 King Street, 6th Floor
Fredericton, New Brunswick
E3B 4X1
Attention: Tender Coordinator

Facsimile

NB Power Holding Corporation
(506) 458-4089
Attention: Tender Coordinator

Email

AllTenders@nbpower.com
Attention: Tender Coordinator
Should it be determined that a question or answer requires a change to this RFQ, an addendum will be issued. Only information provided in writing by the Tender Coordinator will serve to change the requirements of this RFQ.

NB Power reserves the right not to respond to questions and to distribute or make available the text of any questions and answers to all parties who registered to respond to the RFQ. Questions or any clarification requests by a registered Respondent must be submitted no later than May 14th, 2012.

2.3 Addenda

Any interpretation of, or change in the RFQ prior to the latest date specified for receipt of submissions, shall be made only by written, facsimile, or electronically transmitted addenda issued by NB Power and such addenda shall become part of the RFQ. No other interpretation or explanation shall be valid. It is the sole responsibility of the Respondent, to receive notification / addenda from the NB Power’s website. Reasons of not having received a notification / addenda posted on the NB Power’s website, shall not be accepted as valid reasons for non compliance with addenda. Each Respondent will be deemed to have received all addenda posted to NB Power’s website.

The latest day for addenda to be posted to the NB Power’s website will be May 16th, 2012.

2.4 Tentative Schedule

A tentative schedule for the selection process for the Project is provided belcw:

Issue RFQ May 1st, 2012
Last day to issue questions to RFQ May 14th, 2012
Last day to issue answers to questions to RFQ May 15th, 2012
Last day to issue addenda to RFQ May 16th, 2012
Closing Date for submissions to RFQ May 18th, 2012
Notification to Respondents June 2012
Commencement of Stage 2 RFP (if any) July-August 2012

This tentative schedule, including the proposed dates for conclusion of each milestone, may be amended from time to time by NB Power in its sole discretion.
3.0 Evaluation of Submissions

An Evaluation Team representing NB Power will review and evaluate the submissions received pursuant to this RFQ. Following evaluation by the Evaluation Team, each of the Respondents will be notified as to whether or not it will be invited to submit a proposal for their Product in response to the RFP. For certainty, any Respondent whose submission and Product does not meet all of the requirements set out in this RFQ will have no right to submit a proposal in response to the RFP and no person will be invited to submit a proposal in response to the RFP unless they submit a response to this RFQ.

The assessment process indicated below represents the approach that NB Power intends to use; however, this evaluation approach is subject to modification and adjustment at NB Power’s sole discretion. NB Power, in its sole and absolute discretion is responsible for determining the evaluation process and for final selection of Respondents who are invited to submit a proposal in response to the RFP.

3.1 Preliminary Submission Requirements

This stage of the evaluation process will evaluate submissions to determine that all of the submission requirements have been met including, without limitation, that:

- the submission was received prior to the deadline;
- all requested information is contained in the submission, including mandatory forms, and it is properly signed and executed.

Only those submissions that meet the foregoing requirements will proceed to the subsequent stages of the evaluation process.

3.2 Submission Review and Preliminary Evaluation

Submissions will be reviewed and deviations from the requirements of this RFQ will be noted and assessed and may lead to immediate disqualification. The Evaluation Team will review the responses to this RFQ as submitted and make a preliminary determination as to whether each Respondent and its proposed Product meets the requirements set out in this RFQ.

3.3 Additional Information

NB Power may, in its sole discretion, request Respondents to provide additional information or to clarify their submissions. All clarifications will be requested in writing and are to be answered in writing to the Tender Coordinator.

3.4 Final Assessment and Reference Checks

Information from all sources may be verified and final selection will be determined by NB Power. NB Power may, in its sole discretion, check references and obtain any other type of information that might aid NB Power in evaluating the submissions. NB Power reserves the right to consider all or any information received from all available sources.
3.5 **Selection**

Based on a review and evaluation of the submissions by the Evaluation Team, NB Power will make a determination as to the list of Proponents and their respective Products which are to be invited to submit a proposal pursuant to the RFP. The evaluation of the submissions will be based on the contents of the submissions, any clarifications provided at the request of NB Power, and any reference or background checks carried out by NB Power or its consultants.

All Respondents who are not invited to submit a proposal pursuant to the RFP will be notified.

3.6 **Mandatory Criteria**

For certainty and without limitation, no Respondent will be invited to submit a proposal in response to the RFP where its submission does not comply with the following criteria:

(i) the submission was received prior to the deadline set out in Section 4.1 and contains all requested information, including mandatory forms, and is properly signed and executed;

(ii) all of the information set out or referred to in Section 4.2 to this RFQ;

(iii) the Respondent has delivered the sample luminaire in the manner set out in Section 4.3;

(iv) the Product described in the submission meets all of the minimum specifications and requirements set out or referred to in Section 6.0 to this RFQ.
4.0 Submission Requirements

Respondents are asked to read these instructions and adhere to the format set out below when preparing their submissions. Failure to comply with this requirement may, solely at NB Power's discretion, result in the Respondent's submission being disqualified from further consideration.

4.1 Delivery of Submissions

Respondents responding to this RFQ must submit one (1) original and three (3) copies (one of which must be unbound suitable for reproduction) of their complete submission addressed to:

New Brunswick Power Holding Corporation  
PO Box 2010  
515 King Street, 6th Floor  
Fredericton, New Brunswick, E3B 5G4  
Attention: Tender Coordinator

To ensure consideration, the submission shall be clearly marked "SUPPLY OF LED STREETLIGHT LUMINAIRES – REQUEST FOR QUALIFICATIONS", properly completed, and enclosed in a sealed envelope stating Respondent's name and Product Manufacturer's name (if different).

RFQ submissions are to be received by May 18th, 2012 by 1:30 p.m. Atlantic Time. Late submissions will not be considered and will be returned unopened to the Respondent.

To ensure consideration, the RFQ submission shall be properly completed, enclosed and sealed in the envelope provided, or a facsimile thereof, and must reach the above designated address in time for the opening of these RFQ submissions as noted in the public advertisement or in the letter of invitation.

The RFQ submission box for receipt of RFQ submissions shall be located in the sixth (6th) floor reception area at the address noted above and the Respondent RFQ submission must be deposited in this box.

The signatures of all parties submitting shall be in their respective handwriting and RFQ submissions submitted by corporations shall be signed by a duly authorized officer of the Respondent.

4.2 Submission Outline

Submissions shall include all of the information and documents set out herein. No assumptions should be made that NB Power has any knowledge of the Respondent, its experience, expertise or performance of its Product other than that which is submitted.

Respondents should refrain from including additional information not specifically requested in this RFQ. Any extraneous information will be discarded during the evaluation process.

The Respondent shall include each of the following with its submission:
(a) Technical Requirements & Warranty Evaluation

(i) A transmittal letter on the Respondent's letterhead requesting approval for its Product(s). Each Respondent is not limited to only one Product and may submit a response for more than one Product provided that all information required hereunder is provided for each Product. The Product(s) being offered must be production units which have been in production and operating for a minimum of one (1) year prior to the date of this RFQ. Prototype Products will not be accepted.

(ii) Technical sheets for each Product being offered.

(iii) Identification and description of Respondent's ability to fulfill the Technical and Design Support and the key people who would be delivering on this request as listed in Section 5.1.

(iv) Warranty information and verification that the warranty meets the requirements listed in Section 5.2.

(v) Confirmation of the insurance coverage as set out in Section 5.3.

(vi) The testing, certifications, calculations and information as indicated in Section 6.12;

(vii) A completed Technical Requirements Check List in the form set out in Appendix C.

(viii) A completed Typical Roadway Layouts Table in the form set out in Table A of Appendix E including calculations.

(b) Company Qualifications

- Evidence that the Manufacturer has not less than three (3) years experience in the manufacturing of LED based lighting products.

- Completed Corporate, Organizational and Financial Data Form in the form set out in Appendix D including, without limitation, the following information:
  - Details of Respondent and Manufacturer (Section 1.0)
  - Organization (Section 2.0)
  - Financial (Section 3.0)
  - Product and Customer History (Section 4.0)
  - Supply Chain Capabilities (Section 5.0)
(c) Mandatory Forms

- The Respondent declaration set out in Appendix F to this RFQ; and
- The Conflict of Interest Declaration set out in Appendix G to this RFQ

4.3 Sample Product

The Respondent shall submit one (1) sample luminaire intended to replace an existing 100watt HPS fixture for Sample Roadway # 2 as described in Table A to Appendix E. The sample luminaire shall be delivered to NB Power (Attention: Eric Boldon) at 515 King St, Fredericton NB, E3B 4X1. Samples must be delivered after the closing date set out in Section 4.1 and no later than five (5) working days after this closing date. The sample luminaire shall be clearly marked in sufficient detail so as to identify the Respondent submitting the sample. The sample luminaire shall be deemed to be part of the Respondent’s RFQ submission.
5.0 Technical and Design Support, Warranty and Insurance Requirements

5.1 Technical and Design Support

In performance of the Project, it is the expectation of NB Power to receive technical and design support for the duration of the Supply Agreement. Each Respondent shall confirm its ability to deliver upon this request and identify the key people who would be delivering this service to NB Power.

5.2 Manufacturer's Warranty

The Supplier will be required to provide a warranty for the full replacement of the Product due to any failure, and it must be fully backed by the Manufacturer of the LED luminaire for a minimum period of ten (10) years following the date of receipt of the Product by NB Power. The warranty will extend to the inability or failure of the Product to operate within the specifications and parameters listed in this RFQ during the ten (10) year warranty period. The warranty shall provide for full replacement of defective Products. No pro-rated warranties will be accepted.

The warranty shall provide that all replacement Products shall be supplied within thirty (30) days of notification of failure. The defective product shall be made available to the Supplier at one of NB Power’s stores locations set out in Appendix H. The full replacement cost of the Product, including all packaging and shipping costs and shipping arrangements shall be by the Supplier. NB Power will remove the defective Product and re-install the replacement Product at its own expense except in the case of a catastrophic failure (as described below).

A "catastrophic failure" shall be deemed to be a failure of one percent (1%) or more of the Products within the first year after installation. In the event of a catastrophic failure, the Supplier shall be responsible for the full replacement cost of the Product, including all packaging and shipping costs, and the Supplier shall indemnify and hold NB Power harmless for all labour costs required for the removal of the defective Product and re-installation of replacement Product during the term of the Supply Agreement.

Each Respondent shall provide a confirmation and acknowledgement that it will provide this warranty if selected as Preferred Proponent and demonstrate its ability to deliver this warranty during the term of the Project.

5.3 Insurance

The Supplier will be required to provide adequate insurance coverage determined by NB Power during the term of the Project. As a minimum, Suppliers will be required to have:

- $2,000,000 commercial general liability coverage; and
- $2,000,000 automobile liability coverage.

The Respondent shall confirm that it has the minimum insurance coverage set out above.
Additional insurance or different coverage limits may be required in connection with the Project and will be more particularly set out in the RFP (stage 2).
6.0 LED Luminaire Minimum Product Specifications

All Products supplied by the Supplier must meet the minimum specifications set out in this Section 6.0. Products with alternate specifications which result in the same technical outcome may be considered by NB Power. These specifications are meant for LED replacements for horizontally mounted cobra head roadway luminaires. NB Power reserves the right to reject any Respondent based on any variation from the requested technical qualifications. The Respondent’s submission will demonstrate its Product’s compliance with these specifications.

6.1 Power Supply Driver

Power supply driver shall be a high reliability system with design features and components sets that provide for a minimum of twenty (20) years life expectancy at 10°C. Electrolytic capacitors used in the power supply driver shall have a life rating of 60,000 hours or better at 85°C. The LED power supply components shall be soldered to the printed circuit board in a nitrogen environment for high reliability lead free restriction of hazardous substance ("RoHS") assembly.

Poke-in connectors, or secure terminal blocks with high spring tension push-in spring cage connection shall be used to connect the power supply to the light engine(s).

The power supply shall be capable of operation at 60Hz with a power factor greater than 90%. The driver and related components shall operate normally for input voltage fluctuations of plus 6% or minus 10%. The voltage shall be capable of self-adjustment between 120V to 240V.

The power supply and driver shall be designed for reliable operation with the luminaire at the ambient temperatures between -40°C to +40°C with a maximum case temperature of +90°C. Drivers must be mounted internally and be easily accessible. Driver housing must be rated for wet or damp locations, IP66 or greater ingress protection.

For each luminaire, the Respondent shall provide the following information for each available driver current in the driver’s operating current range:

- Total fixture power consumption in both Watts (W) and Volt-Amps (VA);
- Fixture efficacy in Lumens per Watt based on an independent laboratory LM-79 report; and
- Fixture output in Lumens.

The above data shall be for a fixture using an input voltage of 120 V AC.

The luminaire shall have an internal label per ANSI C136.22. Nominal luminaire input wattage shall account for nominal applied voltage and any reduction in driver efficiency due to suboptimal driver loading.

6.2 Optical System

The optical system shall be designed to properly light the roadway and sidewalks and shall provide maximum spill light cut-off beyond the sidewalk to reduce spill light and glare impacts.
on local residents. The optical system must be International Dark-Sky Association (IDA) Dark Sky Compliant.

No parts of the optical system shall be constructed of polycarbonate unless it is UV stabilized (lens discoloration will be considered a failure under warranty). The optical system shall have a rating of IP66 or better.

Luminaires shall achieve the lowest unit power density (UPD) possible while properly lighting the roadway. The luminaires will meet a unit power density not exceeding 0.20W/m², with the exception of sample roadways #5 and #6 (as found in Table A in Appendix E) which shall not exceed 0.26W/m². Lighting scenarios and design criteria shall be based on typical parameters listed in Table A in Appendix E. Pole spacing defined represents typical conditions. If pole spacing varies, please define alternates on table.

Lighting calculations for all proposed luminaires shall meet the photopic luminance criteria from the TAC Guide for the Design of Roadway Lighting. Sidewalk lighting will not be required. Calculations shall use maintained values and include a suitable light loss factor. The light loss factor (LLF) = LLD x LDD x LATF, where

- lamp lumen depreciation (LLD) shall be determined by the Respondent and be based on the percentage of initial output at 88,000 operating hours calculated in accordance with IESNA LM-80 and TM-21. LED's must have a minimum of 6,000 hours of LM-80 test data. The TM-21 extrapolation can however be up to fourteen (14) times.

- luminaire dirt depreciation (LDD) = Must use 0.90, as per Illuminating Engineering Society (IES) DG-4 for an enclosed and gasketed roadway luminaire installed in an environment with less than 150 µg/m³ airborne particulate matter and cleaned every ten (10) years.

- luminaire ambient temperature factor (LATF) = 1.04 (at 10°C)

All photometry must be photopic in IES format. Scotopic or mesopic factors will not be allowed. All photometric files shall be absolute and undertaken by a lab experienced in LM-79 measurements.

6.3 **Light Engine**

Each luminaire shall have engine(s) populated with white LEDs whose correlated colour temperature shall not exceed 5000K (± 10% testing tolerance) and a minimum colour rendering index (CRI) of 60. The failure of a single LED shall not result in the loss of the whole LED light engine circuit board.

6.4 **Transient Voltage Surge Suppression (TVSS)**

Luminaires shall contain a surge protection device (SPD) to protect all electrical and electronic components from harmful line transient voltage surges as a result of utility line switching, lightning strikes, or other electrical supply system disturbances. The Respondent shall provide the following information about the TVSS surge protection devices (SPDs):
the SPD technology used (example: MOV)
- the number of SPDs and their connections, i.e. L-N/L-L, L-G and N-G
- the rated continuous operating voltage in Volts, for each SPD
- the rated Nominal Discharge Current in kA, for each SPD
- the rated Maximum Surge Current in kA, for each SPD
- the rated Clamping Voltage in Volts, for each SPD
- if available, the TVSS’s: ANSI/IEEE C62.41 Category letter (A, B, C); UL 1449
  Type number (Ex: Type I); and/or, rating in Joules.
- TVSS Test Results as per Section 6.12, clause 4.

6.5 Harmonic Distortion

The Respondent shall provide measured values for percent total harmonic distortion (%THD) of
the AC input current for the following two operating points:

- with the driver operating at its minimum available current
- with the driver operating at its maximum available current

The above measurements shall be for a fixture using an input voltage of 120V AC.

6.6 Heat Sink/Thermal Management

The heat sinking system shall be passive. The heat sink shall have heat sink fins to dissipate heat.
Mechanical design of protruding external surfaces (heat sink fins) shall facilitate hose-down
cleaning and discourage debris accumulation.

At 88,000 hours life (IESNA LM-80) and +10°C, the heat sink system shall maintain a
temperature for the LED’s that is well below their maximum rated Tj (LED junction temperature)
for high performance light output and long life, even at high operating currents.

6.7 Manufacturing

The manufacturing facility for the Product shall be ISO 9001 certified. The Respondent shall
provide confirmation of this requirement.

Each luminaire shall be tested at the factory before assembly as follows:

(i) Megger test 2500 V to ground

(ii) Luminaire start test with photo electric lighting controller relay cell in place

All electronics (light engines and power supplies) shall be manufactured in accordance to RoHS
standards. The Respondent shall have the ability to provide complete traceability of sub-
assemblies and components.
All electronics shall be designed and manufactured to meet or exceed a 20 year life. For the power supply, the mean time between failures (MTBF) in accordance with Telcordia SR-332 analysis method at 20°C ambient temperature shall not be less than 2,000,000 hours.

All internal screws shall be cad plated. External screws shall be stainless steel.

6.8 **Housing, Mounting and Electrical**

The housing (excluding doors or accesses) shall be constructed using a single piece, die-cast, A360 aluminum alloy. The housing shall not contain extruded aluminum or multiple pieces bolted together.

Luminaires shall be suitable for secure mounting on a horizontal pole tenon 32-52mm in diameter x 300mm in length. The opening for the tenon shall have a bird proof gasket. The luminaire shall be fitted with a stop or barrier to prevent the luminaire bracket tenon from entering the driver / power supply compartment during installation. The attachment shall use no more than four (4) bolts and shall have a levelling capability of ±3° in the vertical plane and a ±3 - 5° rotation in the horizontal plane. These luminaires shall have an Effective Projected Area (EPA) of 0.13 square metres or less and a mass not greater than 18kg.

The LED housing shall contain a NEMA wattage label which shall be visible from the ground. The luminaire shall have a label which shall contain the manufacturer, serial number and date of manufacture in a location which can be viewed when accessing the luminaire for servicing.

The luminaire shall have a removable hinged door with a mechanical keeper which will prevent the door from inadvertently lifting out of its hinge socket, and which shall allow easy access to the electrical component. Any door shall have a latching mechanism which will operate with security and convenience throughout the life of the luminaire, under all weather conditions.

The luminaire shall contain a terminal block with connectors constructed to accept #14 AWG stranded to #8 AWG solid supply wires using a standard 10 inch lineman’s screwdriver.

The phase and neutral positions are to be permanently identified on the terminal block. Paint, whiteout, or other similar means of identification are not considered to be permanent means of identification.

The luminaire shall have a single piece copper ground lug, with bronze or copper screw, to accept copper conductor sizes #14 stranded to #8 solid, located near the neutral lug of the terminal block inside the housing.

6.9 **Photo Control Relay**

NB Power considers the Photo Control Relay as an integral part of the LED Street Light Luminaire System. As such, NB Power asks that the Respondent include a minimum 20 year design life photo control relay as part of their submission. It is NB Power's expectation that this device will be covered by any warranty agreement.
6.10 Photo Control Relay Receptacle

The luminaire shall have a casting designed to accept a photo control relay receptacle. The luminaire shall contain a top mounted receptacle (capable of rotating) for a twist lock photo control relay, conforming to ANSI C136.10.

6.11 Finish

Standard finish shall be grey powder coat. Powder coat shall be Polyester Triglycidyl Isocyanurate (TGIC) super durable polyester with a minimum 1000 hour salt spray rating. The nominal thickness of the powder coat shall be at least 2-3 mils.

6.12 Testing and Certification

The Respondent shall provide the testing and certification results listed below with its submission for each Product. Failure to provide this information will result in the Product being rejected from consideration by NB Power.

1. Evidence that the luminaire meets ANSI C136.31-2001 Level 1 for 3G vibration for normal road. The ability to meet Level 2 shall also be available as an option for high vibration applications such as bridges.

2. Provide in-situ junction temperatures test results.

3. The following Manufacturer's information for each available driver current in the driver's operating current range:
   - Total fixture power consumption in both Watts (W) and Volt-Amps (VA)
   - Fixture efficacy in Lumens per Watt based on an independent laboratory LM-79 report
   - Fixture output in Lumens

The above data shall be for a fixture using an input voltage of 120 V AC.

4. Test results for testing of the TVSS in accordance with ANSI/IEEE C62.41-2002 while the TVSS components are installed in a complete luminaire.

5. The following information about the TVSS surge protection devices:
   - the SPD technology used (example: MOV)
   - the number of SPDs and their connections, i.e. L-N/L-L, L-G and N-G
   - the rated continuous operating voltage in Volts, for each SPD
   - the rated Nominal Discharge Current in kA, for each SPD
   - the rated Maximum Surge Current in kA, for each SPD
6. Measured values for percent total harmonic distortion (%THD) of the AC input current for the following two operating points:
   - with the driver operating at its minimum available current
   - with the driver operating at its maximum available current

The above measurements shall be for a fixture using an input voltage of 120V AC.

7. Evidence of lead RoHS (lead free) certification.

8. IP test results for driver and optical system.

9. Absolute photometric files in accordance with IES-LM79 for each luminaire type, wattage, operating current and photometric distribution submitted. Testing shall be undertaken by a lab experienced in LM-79 measurements.

10. CSA or cUL certifications.

11. Test results for total wattage and power factor.

12. Salt spray and adhesion test results for powder coat finishes.

13. The name of the capacitor manufacturer and model used in the power supply. Provide the capacitor manufacturer's 85°C rating in hours for its rated lifetime. This lifetime rating should include the influence of ripple current and voltage present during the operation of the power supply in the luminaire for in-the-field operating conditions. Provide the capacitor's case temperature under actual operating conditions with an ambient temperature of 20°C.

14. Provide the third party analysis to define MTBF in accordance with Telcordia SR-332 for the actual operating conditions (operating in the luminaire at actual drive current) of the power supply at an ambient temperature of 20°C. Define what assumptions were used in the SR-332 analysis (i.e. did the analysis include potting of the assembly; if the power supply was potted, how was the potting included in the SR-332 analysis; was there a determination of the effect of thermal coefficient expansion and contraction mis-match between the power supply assembly and the potting material used?). When a power supply is potted, the temperature must be measured at the capacitor case location within the potted matrix. Within the potted power supply, provide the junction temperature for the power supply MOSFET (or other vulnerable components) under the actual operating conditions (i.e. drive current used, for the case of a potted supply it should be in operating environment) assuming an ambient temperature of 20°C. Provide the outside coil temperature of the transformer under actual operating conditions with ambient temperature at 20°C; if the power supply is potted, it should be in that configuration.
15. Light loss factor calculations and test results using IES LM-80 and TM-21 methods.
16. Lighting calculations and UPD results sample roadway listed in Table A of Appendix E.
17. Evidence and description of the quality management system being used.
7.0 General Conditions

7.1 Available Information

Each Respondent is solely and exclusively responsible for ensuring they have all information necessary to respond to this RFQ. NB Power makes no representation or warranty and offers no assurance as to the accuracy, appropriateness, or completeness of the information contained herein or otherwise provided as part of this RFQ process, all of which has been or will be provided and made available on an "as is, where is" and "without recourse" basis.

7.2 Use of the RFQ

This document, any correspondence delivered in connection therewith or any portion thereof, may not be used for any purpose other than creation and delivery of a response to this RFQ.

7.3 Communications Procedures

Each Respondent to this RFQ must avoid making any public comment, responding to questions in a public forum, or carrying out any activities to publicly promote or advertise their qualifications or interest in the Project, except for their submission pursuant to this RFQ.

Respondents must not initiate any communication or contact with staff of NB Power or any other persons connected in any way with the Project, other than the Tender Coordinator.

Failure to comply with these requirements may result in disqualification in the sole discretion of NB Power.

7.4 Conflict of Interest

Respondents are required to disclose any conflict of interest, real or perceived, which exists now or, in the Respondent's opinion, may exist in the future, under a Conflict of Interest Declaration in the form attached as Appendix G to this RFQ.

As a result of their involvement in the Project, the following companies and their affiliates are not eligible to participate as members of a Respondent:

- Stewart McKelvey
- DVD & Associates Electrical Consultants Ltd

Other firms which may yet be contracted to work on the Project may also be ineligible.

NB Power reserves the right to disqualify any Respondent which, in the sole opinion of NB Power, has a conflict of interest, whether such conflict exists now or arises in the future.

7.5 Collusion

Each Respondent's submission will be submitted without any connection, knowledge, comparison of information, or arrangement with any other Respondent (or any employee,
representative, or agent thereof). It is the responsibility of each Respondent to ensure that its participation in this RFQ process is conducted fairly and without collusion or fraud.

7.6 **Right to Information and Protection of Privacy Act**

NB Power will consider each submission as confidential, subject to the provisions and disclosure requirements of the *Right to Information and Protection of Privacy Act* (New Brunswick) and to any other disclosure requirements imposed by law. NB Power will, however, have the right to make copies of all submissions for its internal review process.

7.7 **Costs to Respondents**

All costs incurred by a Respondent in the preparation of its submission in response to this RFQ or in providing any additional information necessary for the evaluation of its submission will be borne by the Respondent. NB Power will not be liable for paying such costs in any circumstance, including, without limitation, in the event of a rejection of a submission, the disqualification of a Respondent, the cancellation of the selection process, or otherwise.

7.8 **Changes in Composition of a Respondent**

If there is an addition to, deletion from, or change in the membership or ownership of a Respondent or any other change to the information included on Appendix D submitted as part of the RFQ submission after a response to this RFQ has been submitted, the Respondent will notify the Tender Coordinator, in writing, within five (5) working days of any such change. NB Power reserves the right to disqualify the Respondent if, in its sole opinion, the change negatively affects the ability of the Respondent to carry out the Project.

7.9 **Failure to Comply**

Failure to comply with any requirement of this RFQ may result in a Respondent's disqualification, in the sole discretion of NB Power.

7.10 **Public Communication**

This RFQ will be available to members of the public and will be made available on NB Power's website. The names of the Respondents will also be available to the public upon request after the closing date.

7.11 **Additional Rights of NB Power**

Submissions provided in response to this RFQ become the property of NB Power.

The issuance of this RFQ does not obligate NB Power or any other party to enter into a contract with any party, nor does this RFQ constitute an offer to enter into a contract with any party.

NB Power reserves the right, in its sole discretion, to change the dates, deadlines, limits, and scope of the Project, to reject any or all of the submissions, to cancel this RFQ or the Project, or to elect not to proceed with an RFP or Project, without incurring any cost or liability for costs and damages incurred by any Respondent.
Supply of LED Streetlight Luminaires

Request For Qualifications

Subject to all relevant provisions of the Public Purchasing Act and with the exception of mandatory requirements, NB Power reserves the right, in its sole discretion, to waive any irregularities in any submission, to negotiate modification of any single submission, to request clarification and additional information on any submission and to re-advertise for new submissions for the Project.

NB Power reserves the right, in its sole discretion, to disqualify any submission which, in the judgement of NB Power, contains any false or misleading information.

NB Power reserves the right, at its sole and absolute discretion, to (i) select only those Respondent's proposing a Product which NB Power deems appropriate for the purposes of the Project to submit a proposal in response to the RFP; (ii) deny any Respondent the right to submit a proposal in response to the RFP where there is inadequate, insufficient or incomplete information necessary to support the conclusion that the Respondent's proposed Product complies with the requirements of this RFQ; and (iii) and withdraw at any time the right of a Respondent to submit a proposal in response to the RFP due to significant change in the status of the Respondent or its proposed Product.

7.12 Release By Respondents

Each Respondent acknowledges that in responding to this RFQ they thereby waive and release any claim or right of action against NB Power, its affiliates, its agents, employees, subsidiaries, successors and assigns, arising out of or in conjunction with this RFQ and the processes and determinations provided for herein.

7.13 Return of Samples

The samples provided pursuant to subsection 4.3 of the RFQ may be returned to unsuccessful Respondents, upon request, in accordance with the following:

   i. Samples can be picked up by Respondents at NB Power’s Head Office or from NB Power Store Locations set out in Appendix H during regular business hours; or

   ii. Samples can be sent by post or courier by arrangement by the Respondent to the Respondent COD at no charge to NB Power.

Any samples remaining with NB Power more than thirty (30) days after notification to unsuccessful Respondents shall become the property of NB Power.
SIGNATURES

SUBMISSION SUBMITTED BY:

Name of Respondent

Address of Respondent

Witness to Signature

Authorized Signature

Typed Name of Signatory

Title

Date of Signing

Telephone Number

FAX Number
Appendix A
Glossary of Terms

Unless the context otherwise specifies or requires, for the purposes of this RFQ, the following terms shall have the meanings set forth in this Appendix A:

"Closing Date" May 18th, 2012 by 1:30 p.m. Atlantic Time

"Evaluation Team" The evaluation team formed by NB Power to review and evaluate the RFQ submissions.

"LED" Light-emitting diode.

"Manufacturer" The Company that manufactures the Product being offered for qualification by the Respondent.

"NB Power" New Brunswick Power Distribution and Customer Service Corporation, or its legally appointed representatives, successors and assigns, sometimes referred to herein as "NB Power" or "Énergie NB Power".

"Preferred Proponent" The Proponent that is selected to enter into the Supply Agreement to carry out the Project.

"Product" The LED streetlight luminaire to be supplied by the Supplier having a minimum design life of 20 years.

"Project" The supply of, approximately, 72,000+/- LED streetlight luminaires for replacement by NB Power of existing horizontally mounted cobra head roadway luminaires owned by NB Power in the Province of New Brunswick.

"Proponent" A Respondent that has been selected to proceed to the RFP phase of the process.

"Respondent" A party who submits a response to this RFQ offering the proposed Product for consideration and who has registered with NB Power to provide a response to this RFQ. The Respondent may be an official designated sales agent of a Manufacturer or the Manufacturer of the Product.

"RFP" The Request for Proposals issued for the Project.

"RFQ" This Request for Qualifications issued for the Project.

"Supplier" The Proponent who enters into the Supply Agreement to carry out the Project.

"Supply Agreement" The agreement to be executed by the Supplier in conjunction with the Project.
Appendix B
Estimated Quantities of Luminaires to be Purchased over Term

<table>
<thead>
<tr>
<th></th>
<th>100watt</th>
<th>150watt</th>
<th>200watt</th>
<th>400watt</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>63310</td>
<td>4975</td>
<td>3460</td>
<td>480</td>
<td>72225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Expected quantity of lights to be changed over 5 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>100watt</td>
<td>150watt</td>
<td>200watt</td>
<td>400watt</td>
<td>Total</td>
</tr>
<tr>
<td>1</td>
<td>12662</td>
<td>995</td>
<td>692</td>
<td>96</td>
<td>14445</td>
</tr>
<tr>
<td>2</td>
<td>12662</td>
<td>995</td>
<td>692</td>
<td>96</td>
<td>14445</td>
</tr>
<tr>
<td>3</td>
<td>12662</td>
<td>995</td>
<td>692</td>
<td>96</td>
<td>14445</td>
</tr>
<tr>
<td>4</td>
<td>12662</td>
<td>995</td>
<td>692</td>
<td>96</td>
<td>14445</td>
</tr>
<tr>
<td>5</td>
<td>12662</td>
<td>995</td>
<td>692</td>
<td>96</td>
<td>14445</td>
</tr>
</tbody>
</table>

The quantities given are estimates only. NB Power makes no guarantee of the accuracy of the estimate, and quantities shall be governed by NB Power's actual requirements.
Appendix C
Technical Requirements Check List

Without limiting any of the other requirements contained herein, each of the requirements set out in this checklist are mandatory requirements for the Project. Where the Respondent indicates that any feature set out or referred to in the Appendix C is "N/A – Feature not available" the Respondent may provide alternatives in the column provided. Alternatives offered must have the same technical outcomes as the requested requirement. Where alternatives are offered, NB Power will determine in its sole discretion if the Respondent’s Product will receive further consideration during the evaluation process and whether the Respondent will be invited to submit a proposal in response to the RFP.

In completing the Technical Requirements Checklist, the Respondent shall populate the following columns:

**Respondent Response Codes**

The Respondent will populate the response code columns with one of the following codes for each evaluation question:

- **Available (A)** – This is a standard feature or normal configuration option of the LED Luminaire system.
- **Not Available (N/A)** – This feature or configuration is not available.

**Further Details and/or Alternatives**

Please populate this column to further explain the response as needed or to offer alternatives as described above. If necessary, the Respondent may attach a separate sheet with further details.
### Technical Requirements Check List

<table>
<thead>
<tr>
<th>Item #</th>
<th>Section #</th>
<th>Question Classification</th>
<th>Requirement</th>
<th>Response Codes</th>
<th>Further Details and/or Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.1</td>
<td>Mandatory</td>
<td>Power supply driver shall be a high reliability system with design features and components sets that provide for a minimum of 20 years life expectancy at 10°C.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6.1</td>
<td>Mandatory</td>
<td>Electrolytic capacitors used in the power supply driver shall have a life rating of 60,000 hours or better at 85°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6.1</td>
<td>Mandatory</td>
<td>The LED power supply components shall be soldered to the printed circuit board in a nitrogen environment for high reliability lead free RoHS assembly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6.1</td>
<td>Mandatory</td>
<td>Poke-in connectors, or secure terminal blocks with high spring tension push-in spring cage connection shall be used to connect the power supply to the light engine(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6.1</td>
<td>Mandatory</td>
<td>The power supply shall be capable of operation at 60Hz with a power factor greater than 90%.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6.1</td>
<td>Mandatory</td>
<td>The driver and related components shall operate normally for input voltage fluctuations of plus 6% or minus 10%.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>6.1</td>
<td>Mandatory</td>
<td>The voltage shall be capable of self-adjustment between 120V to 240V.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>6.1</td>
<td>Mandatory</td>
<td>The power supply and driver shall be designed for reliable operation with the luminaire at the ambient temperatures between -40°C to +40°C with a maximum case temperature of +90°C.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>6.1</td>
<td>Mandatory</td>
<td>Drivers must be mounted internally and be easily accessible. Driver housing must be rated for wet or damp locations, IP66 or greater ingress protection.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>6.1</td>
<td>Mandatory</td>
<td>Luminaire shall have an internal label per ANSI C136.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>6.1</td>
<td>Mandatory</td>
<td>Nominal luminaire input wattage shall account for nominal applied voltage and any reduction in driver efficiency due to sub-optimal driver loading.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>6.2</td>
<td>Mandatory</td>
<td>The optical system must be IDA Dark Sky Compliant.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>6.2</td>
<td>Mandatory</td>
<td>No parts of the optical system shall be constructed of polycarbonate unless it is UV stabilized</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item #</td>
<td>RFQ Section #</td>
<td>Question Classification</td>
<td>Requirement</td>
<td></td>
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<tr>
<td>14</td>
<td>6.2</td>
<td>Mandatory</td>
<td>The optical system shall have a rating of IP66 or better.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>6.2</td>
<td>Mandatory</td>
<td>It is required luminaires meet a unit power density not exceeding 0.20W/m² with the exception of sample roadways 5 and 6 (as found in Appendix E – Table A) which shall not exceed 0.26W/m².</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>6.3</td>
<td>Mandatory</td>
<td>Each luminaire shall have engine(s) populated with white LEDs whose Correlated Colour Temperature shall not exceed 5000K (± 10% testing tolerance) and a minimum Colour Rendering Index (CRI) of 60.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>6.3</td>
<td>Mandatory</td>
<td>The failure of a single LED shall not result in the loss of the whole LED light engine circuit board.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>6.4</td>
<td>Mandatory</td>
<td>Luminaires shall contain a surge protection device (SPD) to protect all electrical and electronic components from harmful line transient voltage surges as a result of utility line switching, lightning strikes, or other electrical supply system disturbances.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>6.6</td>
<td>Mandatory</td>
<td>The heat sinking system shall be passive. The heat sink shall have fins to dissipate heat. Mechanical design of protruding external surfaces (heat sink fins) shall facilitate hose-down cleaning and discourage debris accumulation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>6.6</td>
<td>Mandatory</td>
<td>The heat sink system shall maintain a temperature for the LED’s at 88,000 hours life (IESNA LM-80) at +10°C that is well below their maximum rated Tj (LED junction temperature) for high performance light output and long life, even at high operating currents.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>6.7</td>
<td>Mandatory</td>
<td>The manufacturing facility for the Product shall be ISO 9001 certified.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>6.7</td>
<td>Mandatory</td>
<td>Each luminaire shall be tested at the factory before assembly as follows: i. Megger test 2500 V to ground ii. Luminaire start test with photo electric lighting controller relay cell in place.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>6.7</td>
<td>Mandatory</td>
<td>All electronics (light engines and power supplies) shall be manufactured in accordance to RoHS standards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>6.7</td>
<td>Mandatory</td>
<td>The Respondent shall have the ability to provide complete traceability of sub-assemblies and components.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item #</td>
<td>RFQ Section #</td>
<td>Question Classification</td>
<td>Requirement</td>
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</tr>
<tr>
<td>25</td>
<td>6.7</td>
<td>Mandatory</td>
<td>All electronics shall be designed and manufactured to meet or exceed a 20 year life. For the power supply, the Mean Time Between Failure (MTBF) in accordance with Telcordia SR-332 analysis method at 20°C ambient temperature shall not be less than 2,000,000 hours.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>6.7</td>
<td>Mandatory</td>
<td>All internal screws shall be cad plated. External screws shall be stainless steel.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>6.8</td>
<td>Mandatory</td>
<td>The housing (excluding doors or accesses) shall be constructed using a single piece, die-cast, A360 aluminum alloy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>6.8</td>
<td>Mandatory</td>
<td>The housing shall not contain extruded aluminum or multiple pieces bolted together</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>6.8</td>
<td>Mandatory</td>
<td>Luminaires shall be suitable for secure mounting on a horizontal pole tenon 32-52mm in diameter x 300mm in length</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>6.8</td>
<td>Mandatory</td>
<td>The opening for the tenon shall have a bird proof gasket</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>6.8</td>
<td>Mandatory</td>
<td>The luminaire shall be fitted with a stop or barrier to prevent the luminaire bracket tenon from entering the driver / power supply compartment during installation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>6.8</td>
<td>Mandatory</td>
<td>The attachment shall use no more than four (4) bolts and shall have a levelling capability of ±3° in the vertical plane and ±3-5° rotation in the horizontal plane.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>6.8</td>
<td>Mandatory</td>
<td>These luminaires shall have an EPA of 0.13 square metres or less and a mass not greater than 18kg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>6.8</td>
<td>Mandatory</td>
<td>The LED housing shall contain a NEMA wattage label which shall be visible from the ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>6.8</td>
<td>Mandatory</td>
<td>The luminaire shall have a label which shall contain the manufacturer, serial number and date of manufacture in a location which can be viewed when accessing the luminaire for servicing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>6.8</td>
<td>Mandatory</td>
<td>The luminaire shall have a removable hinged door with a mechanical keeper which will prevent the door from inadvertently lifting out of its hinge socket, and which shall allow easy access to the electrical component. Any door shall have a latching mechanism which will operate with security and convenience throughout the life of the luminaire, under all weather conditions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item #</td>
<td>Section #</td>
<td>Question Classification</td>
<td>Requirement</td>
<td>Response Codes</td>
<td>Further Details and/or Alternatives</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>6.8 Mandatory</td>
<td></td>
<td></td>
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<tr>
<td>37</td>
<td>6.8</td>
<td></td>
<td>The luminaire shall contain a terminal block with connectors constructed to accept #14 AWG stranded to #8 AWG solid supply wires using a standard 10 inch lineman’s screwdriver.</td>
<td>Available (A)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6.8 Mandatory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>6.8</td>
<td></td>
<td>The phase and neutral positions are to be permanently identified on the terminal block. Paint, whiteout, or other similar means of identification are not considered to be permanent means of identification.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>6.8 Mandatory</td>
<td></td>
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<tr>
<td>39</td>
<td>6.8</td>
<td></td>
<td>The luminaire shall have a single piece copper ground lug, with bronze or copper screw, to accept copper conductor sizes #14 stranded to #8 solid, located near the neutral lug of the terminal block inside the housing.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>6.8 Mandatory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>6.9</td>
<td></td>
<td>Minimum 20 year design life photo control relay included as part of the submission. Photo control relay is part of the warranty agreement</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>6.10 Mandatory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>6.10</td>
<td></td>
<td>The luminaire shall have a casting designed to accept a photo control relay receptacle. The luminaire shall contain a top mounted receptacle (capable of rotating) for a twist lock photo control relay, conforming to ANSI C136.10.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>6.11 Mandatory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>6.11</td>
<td></td>
<td>Standard finish shall be grey powder coat. Powder coat shall be Polyester Triglycidyl Isocyanurate (TGIC) super durable polyester, with a minimum 1000 hour salt spray rating. The nominal thickness of the powder coat shall be at least 2-3 mils.</td>
<td></td>
<td></td>
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</tbody>
</table>
Appendix D
Corporate, Organizational and Financial Data form

1.0 Details of Respondent:

i. Company Name: ________________________________

ii. Respondent’s representative for the purpose of this submission:

   Name: ____________________    Designation: ____________________
   Telephone: ______________    Email: ____________________
   Mailing Address: __________    Delivery Address: __________

iii. Head Office Address:

   Mailing Address: __________    Delivery Address: __________
   Telephone: ______________    Email: ____________________

iv. New Brunswick Office (If different than above):

   Mailing Address: __________    Delivery Address: __________
   Telephone: ______________    Email: ____________________

v. Registered Office (If different than above):

   Mailing Address: __________    Delivery Address: __________
   Telephone: ______________    Email: ____________________

If the Respondent is not the Manufacturer of the Product, please complete the section below:

Details of Manufacturer:

vi. Company Name: ________________________________

vii. Respondent’s representative for the purpose of this submission:

   Name: ____________________    Designation: ____________________
   Telephone: ______________    Email: ____________________
   Mailing Address: __________    Delivery Address: __________
   ____________________    ____________________    ____________________

_________________________________________________________________________
viii. Head Office Address:

Mailing Address: ___________________ Delivery Address: ___________________
Telephone: ___________________ Email: ___________________

ix. New Brunswick Office (If different than above):

Mailing Address: ___________________ Delivery Address: ___________________
Telephone: ___________________ Email: ___________________

x. Registered Office (If different than above):

Mailing Address: ___________________ Delivery Address: ___________________
Telephone: ___________________ Email: ___________________

2.0 Organization

i. Indicate your type of business organization (Ltd, Inc, Private, Wholly owned subsidiary, etc.):


ii. If you are intending to respond as a joint venture / partnership, please enclose a copy of your joint venture / partnership agreement(s) and details of all joint venture / partnership agreements.

iii. Please supply Certificate of Incorporation or Registration, if applicable and attach. If private ownership, please identify the principal shareholders, their addresses and percentage of ownership.

Name: ___________________ Province / State: ________ %
City: ___________
Name: ___________________ Province / State: ________ %
City: ___________
Name: ___________________ Province / State: ________ %
City: ___________
Name: ___________________ Province / State: ________ %
City: ___________

iv. Provide the names of Company Officers:

Name: ___________________ Title: ___________________
Supply of LED Streetlight Luminaires

Name: ___________________________ Title: ___________________________
Name: ___________________________ Title: ___________________________
Name: ___________________________ Title: ___________________________

v. Place of Registration: __________ Date: __________
Registration no.: __________________________

vi. Names of parent, associates, and subsidiary companies (indicate whether wholly-owned or identify percent controlled):

vii. Date business founded: __________________________

viii. Under present management since: __________________________

3.0 Financial:

i. Financial responsibility is assumed by (name of entity): __________

ii. Performance Bonds:

Can you supply Performance / Payment Bonds   Yes☐ No☐

4.0 Product and Customer History:

i. Whose LED's do you use in your products? Have your products gone through an intellectual property (IP) clearance?

ii. Provide the location and annual production capacity of your manufacturing facilities.

iii. Confirm you will be able to provide the product in sufficient quantities to meet the proposed replacement schedule set out in Appendix B.

iv. Provide examples of previous engagements, including contact information for at least three (3) references that NB Power may contact, where the sample luminaire type being provided (Section 4.3) has been operating in North America for a minimum of one (1) year.

5.0 Supply Chain Capabilities

i. Please confirm how your company will accomplish a mandatory multiple point delivery process which could provide a bi-weekly delivery schedule (delivery schedule requirements are subject to change at NB Power's sole discretion) to NB Power's Store Locations as indicated in Appendix H.
Appendix E

Typical Roadway Data

The typical roadway data is listed in Table A below. Respondents shall be required to tabulate light loss factor, total unit input wattages and photometric calculation of proposed LED Luminaire for each sample roadway. The terms in Table A are defined and lighting levels, uniformity and VL are listed in the Transportation Association of Canada's *Guide for the Design of Roadway Lighting* or Illuminating Engineering Society's RP-8-05. Luminance levels shall be the governing criteria to which the lighting calculations shall based with Illuminance levels simply being for information only and not having to meet any criteria.
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<th>2</th>
<th>3</th>
<th>4</th>
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<td>100HPS</td>
<td>100HPS</td>
<td>150HPS</td>
<td>150HPS</td>
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<td>9.2</td>
<td>9.2</td>
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<td>11</td>
<td>13</td>
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<td>Fixture Tilt</td>
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<td>Pavement Classification</td>
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<td>R2 &amp; R3</td>
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<td>Collector</td>
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<td>Model No. of LED Luminaires to meet TAC Guide for the Design of Roadway Lighting</td>
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<td>Total Unit Input Watts</td>
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<td>Average Luminance (cd/m²)</td>
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<td>Veiling Luminance Ratio</td>
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<td>Average Horizontal Illuminance (lux)</td>
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<td>Actual Pole Spacing</td>
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Appendix F
Respondent's Declaration

[On Respondent's letterhead]

New Brunswick Power Holding Corporation
PO Box 2010
515 King Street, 6th Floor
Fredericton, New Brunswick, E3B 5G4

Dear Sir/Ma'am:

I, Mr./Ms. ____________________________, am an authorized official of ____________________________ (the "Respondent") and confirm for and on behalf of the Respondent that:

- I have reviewed the Request for Qualifications for the Supply of LED Luminaires Project issued by New Brunswick Power Distribution and Customer Service Corporation ("NB Power") dated May 1st, 2012, including all addenda thereto (the "RFQ") and the submission made by the Respondent in response thereto (the "submission") and acknowledge and confirm the commitments being made on behalf of the Respondent thereunder.

- The Respondent is solely responsible for the submission and all information contained therein and NB Power has made no representation or warranty as to the accuracy, appropriateness or completeness of the information contained in the RFQ or otherwise made available to the Respondent as part of the RFQ process.

- The Respondent agrees to be bound and abide by the decision of NB Power as to whether the Respondent:
  1. Has satisfied the evaluation criteria set out in the RFQ;
  2. Is deemed to be qualified by NB Power to complete the Project; and
  3. Will be invited to participate in the RFP.

- The Respondent acknowledges the provisions of Section 7.12 of the RFQ and further acknowledges and confirms that delivery of the submission to NB Power constitutes an irrevocable waiver and release by the Respondent of any claim or right of action which it had or may hereafter have for or against NB Power, its affiliates, its agents, employees, subsidiaries, successors and assigns, arising out of or in conjunction with the RFQ or the processes, considerations and determinations provided for thereunder including, without limitation, any claim, demand or right of action in respect of the submission.

Yours very truly,

__________________________________________________________________________
Name, Position

__________________________________________________________________________
Date

__________________________________________________________________________
Authorized Signature
Appendix G
Conflict of Interest Declaration

[On Respondent’s letterhead]

New Brunswick Power Holding Corporation
PO Box 2010
515 King Street, 6th Floor
Fredericton, New Brunswick, E3B 5G4

Dear Sir/Ma'am:

I, Mr./Ms. __________________ , am an authorized official of __________________ (the "Respondent") and confirm for and on behalf of the Respondent that:

1. [use applicable paragraph]

   The Respondent hereby confirms that there is not and there has not been any actual or perceived conflict of interest in submitting a submission to this RFQ, or in performing the services required of the Successful Proponent under the Supply Agreement in connection with the Project.

[OR]

   The following is a list of situations, each of which may be a conflict of interest, or appears as potentially a conflict of interest in the Respondent submitting this response to this RFQ, or in the envisioned contractual obligations of the Successful Proponent under the Supply Agreement in connection with the Project.

   [insert list if applicable]

2. In submitting our submission, our Respondent has/has no [strike out the inapplicable portion] knowledge of or the ability to avail itself of confidential information of NB Power (other than confidential information which may have been disclosed by NB Power in the normal course of the RFQ).

3. We hereby confirm that we have not knowingly hired or retained the services of any employee or advisor who is directly involved in this RFQ on behalf of NB Power, where in so doing such employee or advisor is in breach of the provisions of the RFQ process.

_________________________________________  ___________________________  ___________________________
Name, Position                                    Date                                      Authorized Signature
Appendix H
NB Power's Stores Locations

Northern & Eastern

Bathurst – 2090 Vanier Blvd
Eel River – 234 Cove Road
Miramichi – 115 Walsh Avenue
Moncton – 160 Urquhart Ave
Tracadie – 455 rue du Moulin

Western & Southern

Fredericton – 239 Gilbert Street
Grand Falls – 630 Madawaska Road
Grand Manan – 346 Ingall’s Head Road
Rothesay – 88 Marr Road
St. Stephen – 83 Queen Street West
Sussex – 90 Leonard Drive
Woodstock – 244 Connell Street