

1 **Q. Recitals**

2
3 **At its 2019/2020 GRA, NP proposed to spend \$1.3 million over the 3-year period**
4 **from 2018 to 2020 on an assessment of its Customer Service System (see NP 2019-**
5 **2020 GRA, page 3 of 11).**

6
7 **The EY Report (see EY’s March 2020 report – Customer information system -**
8 **Assessment results and planning recommendations) (page 1) states that in 2019 EY**
9 **was engaged through a competitive tendering process to “*explore modernization***
10 ***options and implementation approaches*” with respect to the current Customer**
11 **Service System.**

12
13 **The EY Report (page 4) states “*In 2018, Newfoundland Power engaged EY to***
14 ***perform an assessment of the risks associated with the foundational technologies that***
15 ***support CSS.*”**

- 16
17 **a) Is it accurate to say that to date EY has completed 2 assignments with respect**
18 **to the CSS Replacement Project with the first assignment being the risk**
19 **assessment (June 2018 EY report) and the second assignment being the**
20 **assessment and planning recommendations report submitted with the 2021**
21 **CBA (March 2020 EY Report)? Please provide details.**
- 22
23 **b) Please confirm that EY will be allowed to bid on a third assignment relating to**
24 **implementation of the CSS replacement project and who will be preparing**
25 **such a bid process.**
- 26
27 **c) The 17 June 2018 cover letter to the EY report on the risk assessment appears**
28 **to suggest that Newfoundland Power contracted EY directly to undertake this**
29 **work (it states “*Newfoundland Power requested a third party provider to:*”**
30 **followed by scope of work). Was EY contracted directly, or was EY awarded**
31 **this contract via competitive tender? If via competitive tender:**
- 32
33 **i. How many bids did NP receive in addition to that submitted by EY?**
- 34
35 **ii. Did the solicitation include a promise of more work to come in Phase 2?**
- 36
37 **iii. How much did EY charge NP for this work? Did EY charge by the hour**
38 **or was this a fixed price contract? Provide details.**
- 39
40 **iv. Did EY agree to do the work at a discounted rate knowing that follow-on**
41 **work was coming? What was the hourly rate?**
- 42
43 **v. As part of the work relating to the risk assessment, did EY draft the**
44 **Request for Proposals for the second assignment and what involvement, if**
45 **any, had EY in preparing this request?**

1 **vi. How did the final cost of the risk assessment assignment compare to the**
 2 **bid price?**

3
 4 **vii. For the record, please provide a copy of the competitive solicitation**
 5 **documents and the agreement between NP and EY for the risk assessment**
 6 **assignment.**

7
 8 A. a) Yes, EY has completed 2 assignments with respect to the *CSS Replacement Project*.

9
 10 The first assignment was completed in 2018. EY's report, entitled *CSS Technical*
 11 *Risk Assessment*, was filed with the Board as part of this proceeding on
 12 November 2, 2020.¹

13
 14 The second assignment was completed over the period 2019 to 2020. EY's report,
 15 entitled *Customer Information System: Assessment Results and Planning*
 16 *Recommendations*, was filed with the Board as part of Newfoundland Power's *2021*
 17 *Capital Budget Application*.²

18
 19 b) See response to Request for Information CA-NP-087.

20
 21 c) EY was awarded the contract to conduct the 2018 risk assessment following a
 22 competitive tendering process.

23
 24 i. With respect to the 2018 risk assessment, Newfoundland Power received 1
 25 other bid in addition to that submitted by EY.

26
 27 ii. No, the solicitation for the 2018 risk assessment did not include a promise of
 28 more work to come in Phase 2.

29
 30 iii. EY's 2018 risk assessment was awarded as fixed price contract with an
 31 estimate for expenses. The actual cost of this contract was \$34,114 excluding
 32 HST.

33
 34 iv. Newfoundland Power has no information on the processes used by EY in
 35 preparing its bid for the 2018 risk assessment.

36
 37 The 2018 risk assessment was not completed at an hourly rate. It was
 38 completed as a fixed price contract, plus actual expenses incurred.

39
 40 v. No, EY did not draft the Request for Proposals for the second assignment. EY
 41 was not involved in preparing that request.

¹ This report was originally filed with the Board in response to Request for Information PUB-NP-008 as part of Newfoundland Power's *2019/2020 General Rate Application*.

² See the *2021 Capital Budget Application, Volume 1, Customer Service Continuity Plan, Attachment A*.

- 1 vi. The estimated cost of executing the 2018 risk assessment was \$32,000. The
2 actual cost incurred was \$34,114.³
3
4 vii. See Attachment A to this response for the Request for Bids issued for the 2018
5 risk assessment.
6
7 See Attachment B to this response for a copy of the service agreement between
8 Newfoundland Power and EY for the 2018 risk assessment.

³ Costs exclude HST.

Request for Bids
2018 Risk Assessment

Request for Bids Instructions to Bidders

Service Agreement SA-2018-013

CSS Technology Architecture Risk Review

WHENEVER. WHEREVER.
We'll be there.



1. General Nature and Location of Work

Newfoundland Power Inc. (herein called the "Owner") requests bids ("Bids") for the services outlined in the attached Contractor Schedules.

2. Submission of Bids

Bids will be received up to 3:00:00 p.m. Newfoundland Standard Time on **March 28, 2018** and are to be submitted by email in PDF format with the Request for Bids number and Title in the email subject line, at the following email address:

contractservice@newfoundlandpower.com

3. Request for Bids ("RFB") Document

This RFB document consists of the following:

- (a) Instructions to Bidders;
- (b) Agreement including any referenced attachments;
- (c) Contractor Schedules; and,
- (d) Any Addenda to the above.

4. Completion of Contractor Schedules

- (a) The Contractor Schedule's shall be completed in its entirety.
- (b) All information provided on the Contractor Schedules should be typed or printed so as to be clearly legible.
- (c) Where spaces are provided on the Contractor Schedules for the Bidder's signature, the Contractor Schedules shall be signed by a duly authorized representative of the Bidder.
- (d) By signing and returning the Contractor Schedules as requested, the Bidder agrees to be bound by all of the terms and conditions in the attached Agreement.

5. Amendments to the RFB

Prior to Bid Close the Owner may amend this RFB by issuing an Addendum.

6. Rejection of Bids

The Owner reserves the right to reject any and all Bids.

7. Evaluation of Bids and Award Notification

- (a) Evaluation of Bids shall include but may not be limited to pricing, proposed personnel, equipment, experience, and references.
- (b) Upon successful evaluation of the Contractor Schedules, the successful Bidder will be notified by email.

8. Acceptance of Bid

- (a) Bids shall be open for acceptance for a period of thirty (30) days following the Bid Close.
- (b) The lowest Bid will not necessarily be accepted.
- (c) The Owner reserves the right to accept any Bid, in whole or in part and to accept any Bid it considers advantageous.

- (d) The Owner's acceptance of a Bid will result in a binding contract between Bidder and the Owner. Upon acceptance of bid, the Owner will return a duplicate copy of the Agreement and a fully executed copy of the Contractor Schedules to the successful Bidder. No alterations or amendments to the terms and conditions of the Agreement shall be permitted unless agreed to in writing by the Owner.

9. Questions and Inquiries

Questions and inquiries regarding this RFB shall be communicated to the Owner by email at contractservice@newfoundlandpower.com by **March 28, 2018**.

10. Familiarity with the Work and Site of Work

Before submitting a Bid, Bidders are advised to carefully examine the RFB Document and fully inform themselves of the requirements of this RFB.

Service Agreement

SA-2018-013

CSS Technology Architecture Risk Review

between

Newfoundland Power Inc.

and

< Contractor Name >

WHENEVER. WHEREVER.
We'll be there.

NEWFOUNDLAND
POWER
A FORTIS COMPANY

Table of Contents

Agreement

- Appendix A - Certificate of Insurance
- Appendix B - Specifications and Drawings
- Appendix C - Contractor Schedules and Agreement Execution

1. **Entire Agreement**

This Service Agreement including these Terms and Conditions, shall form the entire agreement between the parties ("Agreement") and shall supersede all prior agreements, understandings and negotiations with respect to the services covered by this Agreement.

2. **Scope of Service**

The Contractor shall perform the services specified in the attached Appendix B, Specifications and Drawings in accordance with the terms and conditions set out herein, and any attachments, drawings, plans and specifications referenced herein ("Service").

3. **Term**

- (a) Term shall be as specified in Appendix C, Contractor Schedules.
- (b) If circumstances beyond the Contractor's control require an extension of time to complete any service required under this Agreement, the Contractor may request in writing, and the Owner may grant, such extension as is reasonable in the circumstances.

4. **Time**

Time shall in all respects be of the essence of this Agreement and of all provisions of it.

5. **Payment**

- (a) The prices payable by the Owner for the services covered by this Agreement shall be the prices stated in Appendix C, Contractor Schedules. All dollar amounts referred to in this Agreement are in Canadian funds unless stated otherwise.
- (b) The prices shall be all inclusive prices and Contractor shall levy no other charges, expenses or costs with respect to the supply or delivery of the Services covered by this Agreement, including, without limitation, for packing, crating, labeling, storage, delivery and insurance of goods or payment of any applicable customs duties or tariffs and excise and sales taxes, except Harmonized Sales Tax ("HST").
- (c) The Owner may withhold from any payment due or to become due to the Contractor, funds sufficient to satisfy its obligations with respect to any lien or trust claim of which the Owner has notice or is deemed to have notice.
- (d) The Owner will issue payment within thirty (30) days from the invoice date for invoices presented by the Contractor in accordance with this Agreement and that are approved by the Owner.

6. **Contractor's Obligations**

- (a) The Contractor shall supply all labour, tools, equipment, machinery, heat, necessary to perform its obligations under this Agreement.
- (b) The Contractor is responsible for obtaining and paying for all permits, licenses, and certificates necessary for the performance of the Service.

- (c) The Contractor shall give all required notices and comply with all laws, ordinances, rules, regulations, codes, and orders of all authorities having jurisdiction which are, or become in force during the performance of services which relate to this Agreement, the preservation of public health, or construction safety.
- (d) The Contractor shall leave the work site "broom clean" at the end of each day that it performs any of the Services. The Contractor shall remove all debris from the work site to the satisfaction of the Owner upon completion of the Service.
- (e) The Contractor shall protect the Service, the Owner's property, and the property of third parties from damage occasioned by the performance of its obligations under this Agreement.

7. Changes

- (a) The Owner reserves the right at any time to direct changes, or cause the Contractor to make changes, to specifications, drawings or to otherwise change the scope of the service covered by this Agreement, including service with respect to such matters as inspection, testing or quality control, and the Contractor agrees to promptly make those changes.
- (b) Any difference in price or time for performance resulting from such changes shall be equitably adjusted by the Owner and the Agreement shall be amended in writing after receipt of documentation in a form and detail which the Owner may direct or by the Contractor and the Owner as they may agree.

8. Insurance

The Contractor shall provide, maintain and pay for, during the performance of Service under this Agreement, all insurance coverage as indicated on the attached Appendix A, "Certificate of Insurance". Prior to commencement of Service, the Contractor shall provide to the Owner, the attached "Certificate of Insurance" completed and signed by the Contractor's insurance broker. The Contractor agrees that the Owner may request from the Contractor's insurance broker, an updated Certificate of Insurance at any time during the provision of Service.

9. Indemnification

- (a) During the Term of this Agreement, and subject to the immediately following provisos, the Contractor shall indemnify and save harmless and defend the Owner from and against all loss, costs, damages and expenses occasioned to the Owner by any act, omission, fault, default or negligence of the Contractor or those for whom the Contractor is in law responsible; provided, and it is expressly understood and agreed by and between the parties that the Contractor shall be in no way be responsible to the Owner under the provisions of this paragraph unless a claim in writing is made against the Contractor within sixty (60) days from and after the date on which the loss or damage event was discovered or ought reasonably to have been discovered by the Owner. The indemnity contained in this Agreement shall not be prejudiced by, and shall survive, the termination of this Agreement.

- (b) During the Term of this Agreement, and subject to the immediately following provisos, the Contractor shall indemnify and save harmless and defend the Owner from and against all loss, costs, damages and expenses occasioned to third parties by any act, omission, fault, default or negligence of the Contractor or those for whom the Contractor is in law responsible; provided, and it is expressly understood and agreed by and between the parties that the Contractor shall be in no way be responsible to the Owner under the provisions of this paragraph unless a claim in writing is made against the Contractor within sixty (60) days from and after notice of a claim of such third party in respect of the matter is given to the Owner. The indemnity contained in this Agreement shall not be prejudiced by, and shall survive, the termination of the Agreement.

10. Notices

Any notice or communication issued under this Agreement will be effective only if it is in writing and delivered in person, or mailed by registered or certified mail (return receipt requested, postage prepaid) or, by email to the addressee's address set forth on the cover of the Contractor Schedules or to such other address as the addressee may designate to the sender in accordance with this section. All notices and communications will be deemed given when delivered in person or by overnight courier service, three days after mailing if mailed, or when sent by facsimile transmission if confirmation is received.

11. Workplace Health, Safety and Compensation Commission

The Contractor shall, upon request by the Owner, provide evidence of the Contractor's compliance with the requirements of the Province of Newfoundland and Labrador with respect to Workplace Health, Safety and Compensation Commission Insurance.

12. Warranty

- (a) The Contractor shall correct at his own expense:
- i. Any Services provided that are found to be not in accordance with this Agreement.
 - ii. Any defects in the Service due to faulty products and/or workmanship.
- (b) The Contractor shall correct and/or pay for any damages to other work resulting from any corrections required under the terms and conditions of this Agreement.
- (c) Final payment pursuant to this Agreement shall not relieve the Contractor from his responsibility hereunder.
- (d) The Owner shall give the Contractor written notice of observed defects promptly.
- (e) The Contractor shall be liable for the proper performance of the Service provided only to the extent that careful workmanship and proper implementation of the Service provided under this Agreement will permit.
- (f) The Contractor expressly warrants that the Product covered by this Agreement will conform to the specifications, drawings and descriptions as set out in the Request for Quotation and will be of merchantable quality, of good material and workmanship and free from defect, for a period of 1 year. In addition, the Contractor acknowledges that the Contractor knows of the Owner's intended use and expressly warrants that the Product covered by this Agreement, which has been selected, designed, manufactured, supplied and / or assembled by the Contractor, based on the Owner's intended use, will be fit and sufficient for the particular purposes intended by the Owner.

13. Owner's Policies, Procedures & Training Documents

Unless otherwise described, all Service performed under this Agreement shall be done in accordance with the Owner's current policies, procedures, and training material. The Contractor shall at all times keep himself and his personnel informed of the Owner's applicable current policies, procedures, and training material including but not limited to the documents posted at <https://workingwith.newfoundlandpower.com>.

14. Safety & Environment

- (a) The Contractor shall ensure that its employees, Subcontractors and their employees, and the Service, comply with:
 - i. All applicable safety legislation, environmental legislation, rules, regulations and requirements of all authorities having jurisdiction which are in force or come into force during the performance of the Service by the Contractor under this Agreement.
 - ii. The Occupational Health and Safety Act.
 - iii. The Owner's "Contractor Safety Responsibilities" and "Contractor Environmental Responsibilities" as amended from time to time.
 - iv. The Owner's Operations Manual, any additional regulations as attached, and with all specified health and safety standards, policies and procedures established for and used by the Owner.
 - v. All environmental procedures developed and used by the Owner of which the Contractor is made aware.
 - vi. Such other rules and regulations as the Owner may establish.
- (b) **Pre-Job Award Meeting:** Prior to the initial commencement of Service, a pre-job meeting between the Owner and the Contractor shall be conducted to communicate and clarify the Owner's expectations with respect to health and safety requirements.
- (c) **Intentionally Deleted**
- (d) **Intentionally Deleted**
- (e) **Competency Letter:** Prior to the commencement of Service, the Contractor shall sign a competency letter provided by the Owner, which indicates that the Contractor's employees, Subcontractors and their employees are competent to perform the work assigned to them in a safe, healthy and environmentally responsible manner. These claims shall be supported with appropriate documentation as requested by the Owner. No Service shall commence until the competency letter has been provided to the Owner.

15. Owner's Health, Safety & Environment Training

Prior to the commencement of Service the Contractor or the Contractor's designee shall attend a "Health and Safety Job Awareness Training" session (approximately 1/2 hour) presented by the Owner. Upon successful completion of this training and prior to the commencement of the Service, the Contractor shall ensure that:

- i. The training prescribed above is delivered by the Contractor or by the Contractor's designee to every employee of the Contractor, its Subcontractors and their employees who will be engaged in the performance of the Service.
- ii. Each person to whom the training is delivered shall complete the applicable quiz provided by the Owner with a minimum 70% grade mark. A copy of each quiz shall be forwarded to the Owner as evidence of successful completion of the training.

- iii. No worker will be permitted to be engaged in the performance of the Service unless they have attended the health and safety training and successfully completed the quizzes prescribed above.

To view the training material, quizzes and answer key, type in your web browser:

<https://workingwith.newfoundlandpower.com>

Select Training > Category 03: Environmental, Health and Safety Awareness Training for
LOW Risk Contractors and Suppliers

16. Vehicles and Equipment

All vehicles and equipment used by the Contractor in the performance of the Service shall be regularly inspected and maintained in good condition. The Contractor shall have all vehicles and equipment inspected and repaired as required by applicable laws and regulations. When requested to do so by the Owner, the Contractor shall have such vehicles and equipment inspected, and their condition attested to in writing, by a qualified mechanic of which shall be provided to Newfoundland Power.

17. Termination

The Owner may terminate the Agreement at any time without further obligation to the Contractor. In the event of termination of the Agreement by the Owner, the Contractor shall be paid, in accordance with the prices provided for in the Agreement, for all service performed and expenses incurred up to the date of termination.

18. Relationship of the Parties

The Contractor and the Owner are independent contracting parties and nothing in this Agreement shall make either party the agent or legal representative of the other for any purpose whatsoever, nor shall it grant either party any authority to assume or to create any obligation on behalf of, or in the name of, the other.

19. Subcontractors

The Contractor shall be in good standing and shall ensure that any Subcontractor working on the site under the direction of the Contractor is in good standing with the Workplace Health, Safety and Compensation Commission and with all government agencies throughout the duration of the term of this Agreement.

Any of the Contractor's Subcontractors assigned to perform obligations pursuant to this Agreement, shall not be withdrawn or replaced without the consent of the Owner, which shall not be unreasonably withheld.

20. Assignment & Enurement

The Contractor shall not assign nor delegate its obligations under this Agreement without the Owner's prior written consent, such consent not to be unreasonably withheld. This Agreement shall enure to the benefit of, and be binding on, the parties and their respective heirs, executors, administrators, personal representatives, successors and permitted assigns.

21. Headings

The headings in this Agreement are for convenience only and shall not in any way limit or be deemed to construe or interpret the terms and provisions of this Agreement.

22. Law of the Agreement

This Agreement will be governed and construed according to the laws of the Province of Newfoundland and Labrador.

23. Personnel

The Contractor shall be responsible for the professional and technical competence of the personnel it assigns to perform services pursuant to this Agreement and will select reliable and competent individuals who will be able to effectively perform the obligations pursuant to this Agreement and while doing so, shall conform to a high standard of moral and ethical conduct.

24. Privacy Consent

The Contractor consents and agrees to the Owner's collection, use and maintenance of the Contractor's personal information as defined in applicable privacy legislation for the purpose of facilitating the acquisition and payment of products and services, to evaluate the Contractor's qualifications and to monitor the Contractor's performance.

25. Business Ethics Policy

- (a) The Contractor shall at all times comply with the Owner's Business Ethics Policy as amended from time to time. This obligation includes, but is not limited to, ensuring that its applicable employees, agents, and Subcontractors have read and are complying with the Owner's Business Ethics Policy and any related training materials that may be provided to the Contractor by the Owner from time to time.
- (b) Prior to the commencement of the Service and at the discretion of the Owner, the Contractor shall sign a Business Ethics Acknowledgement letter provided by the Owner which indicates the training described in 25(a) has been successfully completed.
- (c) Failure on the part of the Contractor to comply with the Owner's Business Ethics Policy shall be grounds for immediate termination of this Agreement by the Owner without cause, and for indemnity by the Contractor to the Owner for any damages suffered or losses incurred as a result of the failure or breach of the Business Ethics Policy.

APPENDIX A

Insurance

CA-NP-138, Attachment A
CERTIFICATE OF INSURANCE

WHENEVER. WHEREVER.
 We'll be there.



Attn: Insurance Representative, please complete this Certificate of Insurance.

Service Agreement Number _____ **Service Agreement Name** _____

Broker Name _____ **Address** _____

Contractor's Company Legal Name _____ **Address** _____
 Newfoundland Power Inc. PO Box 8910, St. John's, Newfoundland, A1B 3P6

Additional Insured (for Commercial General Liability only) _____ **Address** _____

This document certifies that the following policies of insurance and indicated coverage are at present in force subject to the terms, conditions and exclusions as contained therein covering the operations of the insured in connection with the above noted Contract made between the Contractor and Newfoundland Power Inc.

Policy Type	Required	Limits of Liability	Insurer & Policy Number	Inception Date D/M/Y	Expiry Date D/M/Y
Commercial General Liability including:	X	Minimum limit \$2,000,000 per occurrence & maximum deductible \$5,000 property damage			
• <i>Cross Liability</i>	X	As per policy limit			
• <i>Non-owned auto</i>	X	As per policy limit			
• <i>Forest fire fighting expenses</i>		As per policy limit			
• <i>Use of explosives for blasting</i>		Minimum limit \$500,000			
• <i>Collapse & Underpinning</i>		As per policy limit			
Automobile Third Party Liability including:	X	Minimum limit \$2,000,000			
• <i>Off-road vehicles (snowmobiles, ATVs, etc) liability coverage</i>		As per policy limit			
Non-owned aircraft		Minimum limit \$2,000,000			
Non-owned watercraft		Minimum limit \$2,000,000			
Environment Impairment Liability		Minimum limit \$2,000,000 & maximum deductible \$5,000			
Hull & Aviation Liability		Combined single limit of \$5,000,000 per occurrence			
Fidelity Bond		Minimum limit of \$250,000 & maximum deductible of \$1,000			
Hook/Riggers Liability		Minimum Limit			
Transportation Rider		Minimum Limit			
Professional Liability	X	Minimum limit \$1,000,000			
Technology Errors and Omissions		Minimum limit \$3,000,000			
Cyber and Privacy Liability	X	Minimum limit \$3,000,000			

The Insurer will endeavor to notify Newfoundland Power Inc., in writing, 30 days prior to cancellation or material change of any policy, except in the event of nonpayment, where policy conditions dealing with termination will apply. Name of Insurer's Officer or Authorized

Insurance Representative: Please Print _____

Insurance Representative: Signature _____ **Date:** _____

Phone #: _____ **Email Address:** _____

APPENDIX B

Specifications & Drawings

Statement of Work

Information technology products generally follow a cycle of market introduction, assessment, acceptance or rejection and ultimate replacement by a new or substantially changed product. The timeframe involved varies greatly by product but is generally based on market interest and momentum.

Technology obsolescence can occur when a product is no longer able to meet market needs. The actual reasons can vary from limited technical capabilities to a lack of alignment with industry standards. Regardless of the cause, the result is the same. Independent software vendors will discontinue further development of the technology if there is insufficient market to justify additional investments. As vendors abandon older technologies to pursue new market opportunities, support for the technology will eventually be discontinued.

Newfoundland Power is in the process of completing an internal review of the primary hardware and software technology components that are used operate the Company's Customer Service System ("CSS").

To compliment this effort, Newfoundland Power is requesting:

- A 3rd party, high level research assessment to document risk associated with the foundational technologies used to implement the current in-house supported and maintained CSS,
- An analysis that should highlight any growing risks associated with the prolonged use of the technologies,
- A recommendation with regard to a suitable course of action to help remediate concerns highlighted by the review.

Specifically, the foundational technologies to be considered as part of the assessment are:

- OpenVMS 8.4
- Oracle 10.2.0.5 on OpenVMS
- HP Integrity/Itanium server architecture
- PowerHouse 8.40G
- Axiant 4GL 3.4G
- OpenVMS COBOL v2.9-1453 and Oracle ProCOBOL

Newfoundland Power are willing to discuss all findings that the Company have uncovered to date. However, some information is private and confidential and that material cannot be physically shared.

Appendix A – Current CSS Architecture

Hardware Infrastructure

CSS runs in a 2-tier architecture (client and application/database server) for production with a duplicate hardware infrastructure for disaster recovery. A separate hardware infrastructure supports development and testing efforts. The disaster recovery environment is also used to support full size functional and performance testing. The following describes the existing hardware infrastructure:

SAN:

- 3PAR Storserv 7200 array
- Fibre channel
- Production volumes located on SSD drives
- Development volumes located on Fast Class (10K) drives

Production Application/Database Server (DRACO):

- Type: HPe Integrity BL860c i2
- Processor: Dual Itanium 9320 1.33Ghz Quad Core Processors
- Memory: 32GBs RAM
- Disks: Dual internal 146GB drives
- Controller: HP BLc QLogic QMH2562 8Gb FC HBA Opt

Disaster Recovery Application/Database Server (CORVUS):

- Type: HPe Integrity BL860c i2
- Processor: Dual Itanium 9320 1.33Ghz Quad Core Processors
- Memory: 32GBs RAM
- Disks: Dual internal 146GB drives
- Controller: HP BLc QLogic QMH2562 8Gb FC HBA Opt

Tape Libraries:

- Production tape library
- HPe MSL G3 4048 with 4 LTO6 drives
- DR tape library
- HPe MSL G3 2024 with 2 LTO6 drives

Development/test Server (CSSDVL):

- Type: HPe Integrity BL860c i2
- Processor: Dual Itanium 9320 1.33Ghz Quad Core Processors
- Memory: 32GBs RAM
- Disks: Dual internal 146GB drives
- Controller: HP BLc QLogic QMH2562 8Gb FC HBA Opt

Typical Client Desktop Configuration:

- Type: HP ProDesk 600 G1 SFF Intel(R) Core(TM) i5-4570 CPU @ 3.20GHz (4 cores)
- Memory: 4GBs RAM
- OS: Microsoft Windows 7 Enterprise x64 with SP1
- Hard drive: 120GB SSD
- Monitor: Dual 19 inch Dell Monitor

Online Environment/User Interface

CSS is a thin client GUI application comprised primarily of Cognos' Axiant 3.0 on the client PC and Powerhouse 820.d3. There are calls to OpenVMS COBOL version 2.4 and Oracle's ProCOBOL version 1.8.51.0 on the OpenVMS server for primary business logic execution.

Demographics:

Program Information:

Axiant:

- The total number of Axiant programs -209
- Total lines of Axiant code - 136,000

COBOL:

- Number of online COBOL programs - 45
- Total lines of online COBOL code - 98,000

Batch Environment

The batch technical architecture consists of the following software/versions: OpenVMS COBOL 2.9, Oracle's ProCOBOL 10.2.0.5.0, Powerhouse 840G QUIZ, QTP, and OpenVMS DCL.

Demographics:

Program Information

Powerhouse:

- The total number of batch powerhouse programs by type:
 - QTP -96
 - QUIZ – 362
- Total lines of batch powerhouse code by type:
 - QTP – 6,000
 - QUIZ - 37,000

COBOL:

- Number of batch COBOL programs - 347
- Total lines of batch COBOL code - 537,000

DCL:

- Number of DCL command procedures - 592
- Total line of DCL command code - 69,000

Reporting Environment

Production Reporting is handled through the on-line environment and through the nightly batch processing. Reports are developed through Powerhouse Quiz and COBOL on the OpenVMS platform and are executed either from the online environment or in the batch environment in a scheduled manner (nightly, weekly, or monthly).

Customer Service Information System (CSIS):

This is a small reporting application written in DCL on the OpenVMS platform. It consolidates some of the production reports generated during batch processing into a central area for users to print via a menu. The menu has various options that print the pertinent report based on the user's logon id.

Ad Hoc End User reporting:

There is no dedicated reporting database or data warehouse available to users. All reporting is generally done from the production data source. From time to time the Disaster Recovery/Test server is refreshed with the current production database to support intensive reporting efforts. This takes pressure from the production machine and allows the users some flexibility in when and how the reports are developed and executed. Users primarily use Cognos Powerhouse Quiz on the OpenVMS platform as the ad-hoc reporting tool. Some users utilize the Cognos Impromptu GUI report writer tool on the windows platform. The company has standardized on the Cognos BI tools for its reporting needs to date.

The approximate number of end user written reports is 1161.

The total number of Powerhouse report programs by type:

- QTP - 7
- QUIZ - 1154

Total lines of Powerhouse code by type:

- QTP - 865
- QUIZ - 38,000

Development Environment

There is a dedicated development OpenVMS server call "CSSDVL" that is used to support all development and maintenance activities for the CSS. The Axiant Development Tool Set is installed locally on each developer's PC. There are various in-house written DCL, Powerhouse QTP, Quiz and Quick screens to manage programs and transfer data. "Synergex PVCS version 6.0" is utilized as a source code manager for the CSS.

Axiant 4GL is a repository based development environment. There is a development repository, which is refreshed from production periodically, and there is a main production repository. All development work is maintained within the development repository on the development server.

Once tested and signed off, the changes are exported from the development repository and imported into the production repository where a recompile is initiated to produce production executables.

Because this is a thin client application, all executables are on the server. The production executables are also maintained on the development server but are migrated to the production server. The production executables are segregated from the development environments on the development server.

There are various in-house developed routines written in DCL and Powerhouse that refresh development databases and extract pertinent data from the production database and populate one of many development databases. This process executes a series of Quick screens, QTP and Quiz code to perform its work.

The Disaster Recovery/Test server is used to execute large-scale tests if warranted. Typical use would be to perform upgrade testing, performance testing or major functional testing.

Customer Accounting Testing System (CATS):

This is an in-house developed testing environment that allows Customer Service personnel to check and test changes to customer electricity rates. It allows the users to modify the rates Newfoundland Power charge to customers and put them through the bill calculation and print bill functions from the batch processing procedures. This allows the Customers Service group to assess impact and accuracy for customer bills prior to implementing any changes. The environment is a combination of Axiant/Powerhouse, COBOL and DCL.

Program Information:

Powerhouse:

The total number of batch powerhouse programs by type:

- QKS - 24
- QTP - 15
- QUIZ - 7

Total lines of batch powerhouse code by type:

- QKS – 1,700
- QTP - 580
- QUIZ - 140

COBOL:

- Number of batch COBOL programs – 27 (utilizes existing CSS batch programs)

DCL:

- Number of DCL command procedures - 54
- Total line of DCL command code - 4,100

Data Architecture

The current data model for the CSS is fully documented and is based on a Customer/1 model, which was highly customized when the system was developed. The separation of Customer, Customer Location and Bill Account is preserved. The data is relatively normalized and modeled accordingly.

With few exceptions, all customer related data is stored in one Oracle database residing on an OpenVMS server. RMS files are primarily used to hold interim transactional data, control data, some reporting information and to load database tables during batch processing.

File System:

Data of an ad hoc, reporting, and batch processing nature is stored in the OpenVMS RMS file subsystem. The RMS files are a mixture of sequential, indexed or relative. Powerhouse sub-files are also utilized.

RMS file demographics:

- Approximate number of files - 1350
- Approximate size - 8,300,000 blocks (VMS block = 512 bytes – approx. 4 gigabytes)
- Approximate number of Powerhouse sub-files - 410. The remaining files are normal OpenVMS .DAT, .TXT or .BCK files

Database Management System:

The primary customer application data is stored in an Oracle Server Enterprise Edition (version 10.2.0.5.0) database instance, residing on an OpenVMS server. The Oracle SQLNET protocol is used for client connections.

APPENDIX C

CONTRACTOR SCHEDULES

(To be inserted on award)

NEWFOUNDLAND POWER INC.

CONTRACTOR SCHEDULES AND AGREEMENT EXECUTION

Service Agreement #: SA-2018-013

Service Agreement Name: CSS Technology Architecture Risk Review

Contractor Information

Company Legal Name	("the Contractor")
Address	
City/Province/Postal Code:	
Contact Name/Phone Number	
Email	

Newfoundland Power Information

Company Legal Name	Newfoundland Power Inc. ("the Owner")
Address	P.O. Box 8910, 50 Duffy Place
City/Province/Postal Code	St. John's NL , A1B 3P6
Contact Name	Attention: Purchasing
Email	contractservice@newfoundlandpower.com

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We'll be there.



Terms and Conditions

The Contractor shall perform the services as more particularly described in these Contractor Schedules and the Owner shall pay for such services in accordance with the Agreement.

1. Contractor Schedules

The Contractor Schedules shall be deemed to include all of the following:

- I. Terms and Conditions;
- II. Schedule of Prices;
- III. Schedule of Personnel and Subcontractors;
- IV. Schedule of Equipment;
- V. Schedule of Experience
- VI. Any other attachments specifically referenced herein; and,
- VII. Any Addenda to the above mutually agreed in writing.

2. Term

- I. The Contractor shall commence the Work on April 16, 2018.
- II. The Contractor shall complete the Work by or before May 16, 2018.

3. Familiarity with the Project Site and the Work

The Contractor acknowledges that they have fully examined the Contractor Schedules and the site of the work and that they have fully informed themselves of the existing conditions and limitations.

4. Invoices

Please forward invoices to Newfoundland Power Inc., Accounts Payable, P.O. Box 8910, St. John's NL, A1B 3P6 or by email to the following:
accountspayable@newfoundlandpower.com

To receive payments, please ensure the Service Agreement Number, Project Title and the name of the Owner's representative is stated on the invoice.

5. Documentation

The Contractor confirms that the following documentation is submitted with the Contractor Schedules. Please tick (✓) for confirmation.

- I. An Insurance Certificate, completed by the Contractor's Insurance broker or a letter from the Contractor's insurance broker stating that the Contractor is eligible to obtain the required insurance coverage.

- II. ___ Letter of Good Standing from the Newfoundland and Labrador Workplace Health, Safety and Compensation Commission.

- III. ___ For incorporated entities, current Certificate of Good Standing from the Commercial Registration Division, Department of Government Services, Newfoundland and Labrador.

6. Commencement of the Work

The Contractor shall not proceed with any Services until the Contractor Schedules have been executed by the Owner.

7. Contractor Obligations

Contractor obligations for performance of the Service arise only upon execution of the Contractor Schedules by both the Contractor and the Owner.

Schedule of Prices

Item No.	Description	Unit Price	Total
1.	Complete an internal review of the primary hardware and software technology components used to operate the Company's Customer Service System (as per attached Statement of Work)	\$	\$
HST (15% of Contract Price)			\$
Total Estimated Contract Price			\$

Notes:

1. The lump sums tendered in the Schedule of Prices shall be for the Service finished complete in every respect and they must include all incidental or contingent expenses and risks of every kind necessary to complete the Service in accordance with the Agreement.
2. The Contractor agrees that the quantities shown in the Schedule of Prices are estimates only and that payments will be made for the actual quantities as measured in the completed Service at the unit prices bid by the Contractor and shown in the Schedule of Prices.
3. HST is extra on all the above items.

Schedule of Personnel and Subcontractors

The service shall be supervised by the following personnel:

Name	Title	Cell Phone/Email

Subcontractors:

Company Name	Portion of the Work to be Completed

Schedule of Equipment

The Contractor shall use the following Equipment. List to include off-road vehicles (All Terrain Vehicles, Snowmobiles etc.) that will be used.

Equipment	Type or Model	No. of Units	Owned or Rented

Schedule of Experience

The Contractor represents that it has successfully completed those works of a similar nature and magnitude shown in this Schedule of Experience.

Company Name	
Contact Phone #	
Value of Contract	
Year Completed	
Description of Work	

Company Name	
Contact Phone #	
Value of Contract	
Year Completed	
Description of Work	

The Contractor, by signing and returning the Contractor Schedules, agrees to be bound by all of the terms and conditions of this Agreement.

Executed on behalf of the Contractor by:

Name (Please Print)	
Title (Please Print)	
Signature	
Date	

Executed on behalf of the Owner by:

Name (Please Print)	
Title (Please Print)	
Signature	
Date	

**Service Agreement with Ernst and Young LLP
2018 Risk Assessment**

Service Agreement

SA-2018-013

CSS Technology Architecture Risk Review

between

Newfoundland Power Inc.

and

Ernst & Young LLP

WHENEVER. WHEREVER.
We'll be there.



Table of Contents

Agreement

- Appendix A - Certificate of Insurance
- Appendix B - Specifications and Drawings
- Appendix C - Contractor Schedules and Agreement Execution

1. **Entire Agreement**

This Service Agreement including these Terms and Conditions, shall form the entire agreement between the parties ("Agreement") and shall supersede all prior agreements, understandings and negotiations with respect to the services covered by this Agreement.

2. **Scope of Service**

The Contractor shall perform the services specified in the attached Appendix B, Specifications and Drawings in accordance with the terms and conditions set out herein, and any attachments, drawings, plans and specifications referenced herein ("Service").

3. **Term**

- (a) Term shall be as specified in Appendix C, Contractor Schedules.
- (b) If circumstances beyond the Contractor's control require an extension of time to complete any service required under this Agreement, the Contractor may request in writing, and the Owner may grant, such extension as is reasonable in the circumstances.

4. **Time**

Time shall in all respects be of the essence of this Agreement and of all provisions of it.

5. **Payment**

- (a) The prices payable by the Owner for the services covered by this Agreement shall be the prices stated in Appendix C, Contractor Schedules. All dollar amounts referred to in this Agreement are in Canadian funds unless stated otherwise.
- (b) The prices shall be all inclusive prices and Contractor shall levy no other charges, expenses or costs with respect to the supply or delivery of the Services covered by this Agreement, including, without limitation, for packing, crating, labeling, storage, delivery and insurance of goods or payment of any applicable customs duties or tariffs and excise and sales taxes, except Harmonized Sales Tax ("HST").
- (c) The Owner may withhold from any payment due or to become due to the Contractor, funds sufficient to satisfy its obligations with respect to any lien or trust claim of which the Owner has notice or is deemed to have notice.
- (d) The Owner will issue payment within thirty (30) days from the invoice date for invoices presented by the Contractor in accordance with this Agreement and that are approved by the Owner.

6. **Contractor's Obligations**

- (a) The Contractor shall supply all labour, tools, equipment, machinery, heat, necessary to perform its obligations under this Agreement.
- (b) The Contractor is responsible for obtaining and paying for all permits, licenses, and certificates necessary for the performance of the Service.

- (c) The Contractor shall give all required notices and comply with all laws, ordinances, rules, regulations, codes, and orders of all authorities having jurisdiction which are, or become in force during the performance of services which relate to this Agreement, the preservation of public health, or construction safety.
- (d) Intentionally Deleted
- (e) The Contractor shall protect the Service, the Owner's property, and the property of third parties from damage occasioned by the performance of its obligations under this Agreement.

7. Changes

- (a) The Owner reserves the right at any time to direct changes, or cause the Contractor to make changes, to specifications, drawings or to otherwise change the scope of the service covered by this Agreement, including service with respect to such matters as inspection, testing or quality control, and the Contractor agrees to promptly make those changes.
- (b) Any difference in price or time for performance resulting from such changes shall be equitably adjusted by the Owner and the Agreement shall be amended in writing after receipt of documentation in a form and detail which the Owner may direct or by the Contractor and the Owner as they may agree.

8. Insurance

The Contractor shall provide, maintain and pay for, during the performance of Service under this Agreement, all insurance coverage as indicated on the attached Appendix A, "Certificate of Insurance". Prior to commencement of Service, the Contractor shall provide to the Owner, the attached "Certificate of Insurance" completed and signed by the Contractor's insurance broker. The Contractor agrees that the Owner may request from the Contractor's insurance broker, an updated Certificate of Insurance at any time during the provision of Service.

9. Indemnification

- (a) During the Term of this Agreement, and subject to the immediately following provisos, the Contractor shall indemnify and save harmless and defend the Owner from and against all loss, costs, damages and expenses occasioned to the Owner by any act, omission, fault, default or negligence of the Contractor or those for whom the Contractor is in law responsible; provided, and it is expressly understood and agreed by and between the parties that the Contractor shall be in no way be responsible to the Owner under the provisions of this paragraph unless a claim in writing is made against the Contractor within sixty (60) days from and after the date on which the loss or damage event was discovered or ought reasonably to have been discovered by the Owner. The indemnity contained in this Agreement shall not be prejudiced by, and shall survive, the termination of this Agreement.

- (b) During the Term of this Agreement, and subject to the immediately following provisos, the Contractor shall indemnify and save harmless and defend the Owner from and against all loss, costs, damages and expenses occasioned to third parties by any act, omission, fault, default or negligence of the Contractor or those for whom the Contractor is in law responsible; provided, and it is expressly understood and agreed by and between the parties that the Contractor shall be in no way be responsible to the Owner under the provisions of this paragraph unless a claim in writing is made against the Contractor within sixty (60) days from and after notice of a claim of such third party in respect of the matter is given to the Owner. The indemnity contained in this Agreement shall not be prejudiced by, and shall survive, the termination of the Agreement.

10. Notices

Any notice or communication issued under this Agreement will be effective only if it is in writing and delivered in person, or mailed by registered or certified mail (return receipt requested, postage prepaid) or, by email to the addressee's address set forth on the cover of the Contractor Schedules or to such other address as the addressee may designate to the sender in accordance with this section. All notices and communications will be deemed given when delivered in person or by overnight courier service, three days after mailing if mailed, or when sent by facsimile transmission if confirmation is received.

11. Workplace Health, Safety and Compensation Commission

The Contractor shall, upon request by the Owner, provide evidence of the Contractor's compliance with the requirements of the Province of Newfoundland and Labrador with respect to Workplace Health, Safety and Compensation Commission Insurance.

12. Warranty

- (a) The Contractor shall correct at his own expense:
- i. Any Services provided that are found to be not in accordance with this Agreement.
 - ii. Any defects in the Service due to faulty products and/or workmanship.
- (b) The Contractor shall correct and/or pay for any damages to other work resulting from any corrections required under the terms and conditions of this Agreement.
- (c) Final payment pursuant to this Agreement shall not relieve the Contractor from his responsibility hereunder.
- (d) The Owner shall give the Contractor written notice of observed defects promptly.
- (e) The Contractor shall be liable for the proper performance of the Service provided only to the extent that careful workmanship and proper implementation of the Service provided under this Agreement will permit.
- (f) Intentionally Deleted

13. Owner's Policies, Procedures & Training Documents

Unless otherwise described, all Service performed under this Agreement shall be done in accordance with the Owner's current policies, procedures, and training material. The Contractor shall at all times keep himself and his personnel informed of the Owner's applicable current policies, procedures, and training material including but not limited to the documents posted at <https://workingwith.newfoundlandpower.com>.

14. Safety & Environment

- (a) The Contractor shall ensure that its employees, Subcontractors and their employees, and the Service, comply with:
 - i. All applicable safety legislation, environmental legislation, rules, regulations and requirements of all authorities having jurisdiction which are in force or come into force during the performance of the Service by the Contractor under this Agreement.
 - ii. The Occupational Health and Safety Act.
 - iii. The Owner's "Contractor Safety Responsibilities" and "Contractor Environmental Responsibilities" as amended from time to time.
 - iv. The Owner's Operations Manual, any additional regulations as attached, and with all specified health and safety standards, policies and procedures established for and used by the Owner.
 - v. All environmental procedures developed and used by the Owner of which the Contractor is made aware.
 - vi. Such other rules and regulations as the Owner may establish.
- (b) **Pre-Job Award Meeting:** Prior to the initial commencement of Service, a pre-job meeting between the Owner and the Contractor shall be conducted to communicate and clarify the Owner's expectations with respect to health and safety requirements.
- (c) **Intentionally Deleted**
- (d) **Intentionally Deleted**
- (e) **Competency Letter:** Prior to the commencement of Service, the Contractor shall sign a competency letter provided by the Owner, which indicates that the Contractor's employees, Subcontractors and their employees are competent to perform the work assigned to them in a safe, healthy and environmentally responsible manner. These claims shall be supported with appropriate documentation as requested by the Owner. No Service shall commence until the competency letter has been provided to the Owner.

15. Owner's Health, Safety & Environment Training

Prior to the commencement of Service the Contractor or the Contractor's designee shall attend a "Health and Safety Job Awareness Training" session (approximately 1/2 hour) presented by the Owner. Upon successful completion of this training and prior to the commencement of the Service, the Contractor shall ensure that:

- i. The training prescribed above is delivered by the Contractor or by the Contractor's designee to every employee of the Contractor, its Subcontractors and their employees who will be engaged in the performance of the Service.
- ii. Each person to whom the training is delivered shall complete the applicable quiz provided by the Owner with a minimum 70% grade mark. A copy of each quiz shall be forwarded to the Owner as evidence of successful completion of the training.

- iii. No worker will be permitted to be engaged in the performance of the Service unless they have attended the health and safety training and successfully completed the quizzes prescribed above.

To view the training material, quizzes and answer key, type in your web browser:

<https://workingwith.newfoundlandpower.com>

Select Training > Category 03: Environmental, Health and Safety Awareness Training for LOW Risk Contractors and Suppliers

16. Vehicles and Equipment

All vehicles and equipment used by the Contractor in the performance of the Service shall be regularly inspected and maintained in good condition. The Contractor shall have all vehicles and equipment inspected and repaired as required by applicable laws and regulations. When requested to do so by the Owner, the Contractor shall have such vehicles and equipment inspected, and their condition attested to in writing, by a qualified mechanic of which shall be provided to Newfoundland Power.

17. Termination

The Owner may terminate the Agreement at any time without further obligation to the Contractor. In the event of termination of the Agreement by the Owner, the Contractor shall be paid, in accordance with the prices provided for in the Agreement, for all service performed and expenses incurred up to the date of termination.

18. Relationship of the Parties

The Contractor and the Owner are independent contracting parties and nothing in this Agreement shall make either party the agent or legal representative of the other for any purpose whatsoever, nor shall it grant either party any authority to assume or to create any obligation on behalf of, or in the name of, the other.

19. Subcontractors

The Contractor shall be in good standing and shall ensure that any Subcontractor working on the site under the direction of the Contractor is in good standing with the Workplace Health, Safety and Compensation Commission and with all government agencies throughout the duration of the term of this Agreement.

Any of the Contractor's Subcontractors assigned to perform obligations pursuant to this Agreement, shall not be withdrawn or replaced without the consent of the Owner, which shall not be unreasonably withheld.

20. Assignment & Enurement

The Contractor shall not assign nor delegate its obligations under this Agreement without the Owner's prior written consent, such consent not to be unreasonably withheld. This Agreement shall enure to the benefit of, and be binding on, the parties and their respective heirs, executors, administrators, personal representatives, successors and permitted assigns.

21. Headings

The headings in this Agreement are for convenience only and shall not in any way limit or be deemed to construe or interpret the terms and provisions of this Agreement.

22. Law of the Agreement

This Agreement will be governed and construed according to the laws of the Province of Newfoundland and Labrador.

23. Personnel

The Contractor shall be responsible for the professional and technical competence of the personnel it assigns to perform services pursuant to this Agreement and will select reliable and competent individuals who will be able to effectively perform the obligations pursuant to this Agreement and while doing so, shall conform to a high standard of moral and ethical conduct.

24. Privacy Consent

The Contractor consents and agrees to the Owner's collection, use and maintenance of the Contractor's personal information as defined in applicable privacy legislation for the purpose of facilitating the acquisition and payment of products and services, to evaluate the Contractor's qualifications and to monitor the Contractor's performance.

25. Business Ethics Policy

- (a) The Contractor shall at all times comply with the Owner's Business Ethics Policy as amended from time to time. This obligation includes, but is not limited to, ensuring that its applicable employees, agents, and Subcontractors have read and are complying with the Owner's Business Ethics Policy and any related training materials that may be provided to the Contractor by the Owner from time to time.
- (b) Prior to the commencement of the Service and at the discretion of the Owner, the Contractor shall sign a Business Ethics Acknowledgement letter provided by the Owner which indicates the training described in 25(a) has been successfully completed.
- (c) Failure on the part of the Contractor to comply with the Owner's Business Ethics Policy shall be grounds for immediate termination of this Agreement by the Owner without cause, and for indemnity by the Contractor to the Owner for any damages suffered or losses incurred as a result of the failure or breach of the Business Ethics Policy.

APPENDIX A

Insurance

CA-NP-138, Attachment B (Redacted)
CERTIFICATE OF INSURANCE

WHENEVER. WHEREVER.
 We'll be there.



Attn: Insurance Representative, please complete this Certificate of Insurance.

Service Agreement Number _____ **Service Agreement Name** _____

Broker Name _____ **Address** _____

Contractor's Company Legal Name _____ **Address** _____
 Newfoundland Power Inc. PO Box 8910, St. John's, Newfoundland, A1B 3P6

Additional Insured (for Commercial General Liability only) _____ **Address** _____

This document certifies that the following policies of insurance and indicated coverage are at present in force subject to the terms, conditions and exclusions as contained therein covering the operations of the insured in connection with the above noted Contract made between the Contractor and Newfoundland Power Inc.

Policy Type	Required	Limits of Liability	Insurer & Policy Number	Inception Date D/M/Y	Expiry Date D/M/Y
Commercial General Liability including:	X	Minimum limit \$2,000,000 per occurrence & maximum deductible \$5,000 property damage			
• <i>Cross Liability</i>	X	As per policy limit			
• <i>Non-owned auto</i>	X	As per policy limit			
• <i>Forest fire fighting expenses</i>		As per policy limit			
• <i>Use of explosives for blasting</i>		Minimum limit \$500,000			
• <i>Collapse & Underpinning</i>		As per policy limit			
Automobile Third Party Liability including:		Minimum limit \$2,000,000			
• <i>Off-road vehicles (snowmobiles, ATVs, etc) liability coverage</i>		As per policy limit			
Non-owned aircraft		Minimum limit \$2,000,000			
Non-owned watercraft		Minimum limit \$2,000,000			
Environment Impairment Liability		Minimum limit \$2,000,000 & maximum deductible \$5,000			
Hull & Aviation Liability		Combined single limit of \$5,000,000 per occurrence			
Fidelity Bond		Minimum limit of \$250,000 & maximum deductible of \$1,000			
Hook/Riggers Liability		Minimum Limit			
Transportation Rider		Minimum Limit			
Professional Liability		Minimum limit \$1,000,000			
Technology Errors and Omissions		Minimum limit \$3,000,000			
Cyber and Privacy Liability		Minimum limit \$3,000,000			

The Insurer will endeavor to notify Newfoundland Power Inc., in writing, 30 days prior to cancellation or material change of any policy, except in the event of nonpayment, where policy conditions dealing with termination will apply. Name of Insurer's Officer or Authorized

Insurance Representative: Please Print _____

Insurance Representative: Signature _____ **Date:** _____

Phone #: _____ **Email Address:** _____

APPENDIX B

Specifications & Drawings

Statement of Work

Information technology products generally follow a cycle of market introduction, assessment, acceptance or rejection and ultimate replacement by a new or substantially changed product. The timeframe involved varies greatly by product but is generally based on market interest and momentum.

Technology obsolescence can occur when a product is no longer able to meet market needs. The actual reasons can vary from limited technical capabilities to a lack of alignment with industry standards. Regardless of the cause, the result is the same. Independent software vendors will discontinue further development of the technology if there is insufficient market to justify additional investments. As vendors abandon older technologies to pursue new market opportunities, support for the technology will eventually be discontinued.

Newfoundland Power is in the process of completing an internal review of the primary hardware and software technology components that are used operate the Company's Customer Service System ("CSS").

To compliment this effort, Newfoundland Power is requesting:

- A 3rd party, high level research assessment to document risk associated with the foundational technologies used to implement the current in-house supported and maintained CSS,
- An analysis that should highlight any growing risks associated with the prolonged use of the technologies,
- A recommendation with regard to a suitable course of action to help remediate concerns highlighted by the review.

Specifically, the foundational technologies to be considered as part of the assessment are:

- OpenVMS 8.4
- Oracle 10.2.0.5 on OpenVMS
- HP Integrity/Itanium server architecture
- PowerHouse 8.40G
- Axiant 4GL 3.4G
- OpenVMS COBOL v2.9-1453 and Oracle ProCOBOL

Newfoundland Power are willing to discuss all findings that the Company have uncovered to date. However, some information is private and confidential and that material cannot be physically shared.

Appendix A – Current CSS Architecture

Hardware Infrastructure

CSS runs in a 2-tier architecture (client and application/database server) for production with a duplicate hardware infrastructure for disaster recovery. A separate hardware infrastructure supports development and testing efforts. The disaster recovery environment is also used to support full size functional and performance testing. The following describes the existing hardware infrastructure:

SAN:

- 3PAR Storserv 7200 array
- Fibre channel
- Production volumes located on SSD drives
- Development volumes located on Fast Class (10K) drives

Production Application/Database Server (DRACO):

- Type: HPe Integrity BL860c i2
- Processor: Dual Itanium 9320 1.33Ghz Quad Core Processors
- Memory: 32GBs RAM
- Disks: Dual internal 146GB drives
- Controller: HP BLc QLogic QMH2562 8Gb FC HBA Opt

Disaster Recovery Application/Database Server (CORVUS):

- Type: HPe Integrity BL860c i2
- Processor: Dual Itanium 9320 1.33Ghz Quad Core Processors
- Memory: 32GBs RAM
- Disks: Dual internal 146GB drives
- Controller: HP BLc QLogic QMH2562 8Gb FC HBA Opt

Tape Libraries:

- Production tape library
- HPe MSL G3 4048 with 4 LTO6 drives
- DR tape library
- HPe MSL G3 2024 with 2 LTO6 drives

Development/test Server (CSSDVL):

- Type: HPe Integrity BL860c i2
- Processor: Dual Itanium 9320 1.33Ghz Quad Core Processors
- Memory: 32GBs RAM
- Disks: Dual internal 146GB drives
- Controller: HP BLc QLogic QMH2562 8Gb FC HBA Opt

Typical Client Desktop Configuration:

- Type: HP ProDesk 600 G1 SFF Intel(R) Core(TM) i5-4570 CPU @ 3.20GHz (4 cores)
- Memory: 4GBs RAM
- OS: Microsoft Windows 7 Enterprise x64 with SP1
- Hard drive: 120GB SSD
- Monitor: Dual 19 inch Dell Monitor

Online Environment/User Interface

CSS is a thin client GUI application comprised primarily of Cognos' Axiant 3.0 on the client PC and Powerhouse 820.d3. There are calls to OpenVMS COBOL version 2.4 and Oracle's ProCOBOL version 1.8.51.0 on the OpenVMS server for primary business logic execution.

Demographics:

Program Information:

Axiant:

- The total number of Axiant programs -209
- Total lines of Axiant code - 136,000

COBOL:

- Number of online COBOL programs - 45
- Total lines of online COBOL code - 98,000

Batch Environment

The batch technical architecture consists of the following software/versions: OpenVMS COBOL 2.9, Oracle's ProCOBOL 10.2.0.5.0, Powerhouse 840G QUIZ, QTP, and OpenVMS DCL.

Demographics:

Program Information

Powerhouse:

- The total number of batch powerhouse programs by type:
 - QTP -96
 - QUIZ – 362
- Total lines of batch powerhouse code by type:
 - QTP – 6,000
 - QUIZ - 37,000

COBOL:

- Number of batch COBOL programs - 347
- Total lines of batch COBOL code - 537,000

DCL:

- Number of DCL command procedures - 592
- Total line of DCL command code - 69,000

Reporting Environment

Production Reporting is handled through the on-line environment and through the nightly batch processing. Reports are developed through Powerhouse Quiz and COBOL on the OpenVMS platform and are executed either from the online environment or in the batch environment in a scheduled manner (nightly, weekly, or monthly).

Customer Service Information System (CSIS):

This is a small reporting application written in DCL on the OpenVMS platform. It consolidates some of the production reports generated during batch processing into a central area for users to print via a menu. The menu has various options that print the pertinent report based on the user's logon id.

Ad Hoc End User reporting:

There is no dedicated reporting database or data warehouse available to users. All reporting is generally done from the production data source. From time to time the Disaster Recovery/Test server is refreshed with the current production database to support intensive reporting efforts. This takes pressure from the production machine and allows the users some flexibility in when and how the reports are developed and executed. Users primarily use Cognos Powerhouse Quiz on the OpenVMS platform as the ad-hoc reporting tool. Some users utilize the Cognos Impromptu GUI report writer tool on the windows platform. The company has standardized on the Cognos BI tools for its reporting needs to date.

The approximate number of end user written reports is 1161.

The total number of Powerhouse report programs by type:

- QTP - 7
- QUIZ - 1154

Total lines of Powerhouse code by type:

- QTP - 865
- QUIZ - 38,000

Development Environment

There is a dedicated development OpenVMS server call "CSSDVL" that is used to support all development and maintenance activities for the CSS. The Axiant Development Tool Set is installed locally on each developer's PC. There are various in-house written DCL, Powerhouse QTP, Quiz and Quick screens to manage programs and transfer data. "Synergex PVCS version 6.0" is utilized as a source code manager for the CSS.

Axiant 4GL is a repository based development environment. There is a development repository, which is refreshed from production periodically, and there is a main production repository. All development work is maintained within the development repository on the development server.

Once tested and signed off, the changes are exported from the development repository and imported into the production repository where a recompile is initiated to produce production executables.

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Program Information:

Powerhouse:

The total number of batch powerhouse programs by type:

- QKS - 24
- QTP - 15
- QUIZ - 7

Total lines of batch powerhouse code by type:

- QKS – 1,700
- QTP - 580
- QUIZ - 140

COBOL:

- Number of batch COBOL programs – 27 (utilizes existing CSS batch programs)

DCL:

- Number of DCL command procedures - 54
- Total line of DCL command code - 4,100

Data Architecture

The current data model for the CSS is fully documented and is based on a Customer/1 model, which was highly customized when the system was developed. The separation of Customer, Customer Location and Bill Account is preserved. The data is relatively normalized and modeled accordingly.

With few exceptions, all customer related data is stored in one Oracle database residing on an OpenVMS server. RMS files are primarily used to hold interim transactional data, control data, some reporting information and to load database tables during batch processing.

File System:

Data of an ad hoc, reporting, and batch processing nature is stored in the OpenVMS RMS file subsystem. The RMS files are a mixture of sequential, indexed or relative. Powerhouse sub-files are also utilized.

RMS file demographics:

- Approximate number of files - 1350
- Approximate size - 8,300,000 blocks (VMS block = 512 bytes – approx. 4 gigabytes)
- Approximate number of Powerhouse sub-files - 410. The remaining files are normal OpenVMS .DAT, .TXT or .BCK files

Database Management System:

The primary customer application data is stored in an Oracle Server Enterprise Edition (version 10.2.0.5.0) database instance, residing on an OpenVMS server. The Oracle SQLNET protocol is used for client connections.

APPENDIX C

CONTRACTOR SCHEDULES

NEWFOUNDLAND POWER INC.

CONTRACTOR SCHEDULES AND AGREEMENT EXECUTION

Service Agreement #: SA-2018-013

Service Agreement Name: CSS Technology Architecture Risk Review

Contractor Information

Company Legal Name	Ernst & Young LLP ("the Contractor")
Address	Fortis Place, 5 Springdale Street, Suite 800
City/Province/Postal Code:	St. John's, NL
Contact Name/Phone Number	[REDACTED]
Email	[REDACTED]

Newfoundland Power Information

Company Legal Name	Newfoundland Power Inc. ("the Owner")
Address	P.O. Box 8910, 50 Duffy Place
City/Province/Postal Code	St. John's NL , A1B 3P6
Contact Name	Attention: Purchasing
Email	contractservice@newfoundlandpower.com

WHENEVER. WHEREVER.
We'll be there.



Terms and Conditions

The Contractor shall perform the services as more particularly described in these Contractor Schedules and the Owner shall pay for such services in accordance with the Agreement.

1. Contractor Schedules

The Contractor Schedules shall be deemed to include all of the following:

- I. Terms and Conditions;
- II. Schedule of Prices;
- III. Schedule of Personnel and Subcontractors;
- IV. Schedule of Equipment;
- V. Schedule of Experience
- VI. Any other attachments specifically referenced herein; and,
- VII. Any Addenda to the above mutually agreed in writing.

2. Term

- I. The Contractor shall commence the Work on April 16, 2018.
- II. The Contractor shall complete the Work by or before May 16, 2018.

3. Familiarity with the Project Site and the Work

The Contractor acknowledges that they have fully examined the Contractor Schedules and the site of the work and that they have fully informed themselves of the existing conditions and limitations.

4. Invoices

Please forward invoices to Newfoundland Power Inc., Accounts Payable, P.O. Box 8910, St. John's NL, A1B 3P6 or by email to the following:
accountspayable@newfoundlandpower.com

To receive payments, please ensure the Service Agreement Number, Project Title and the name of the Owner's representative is stated on the invoice.

5. Documentation

The Contractor confirms that the following documentation is submitted with the Contractor Schedules. Please tick (✓) for confirmation.

- I. An Insurance Certificate, completed by the Contractor's Insurance broker or a letter from the Contractor's insurance broker stating that the Contractor is eligible to obtain the required insurance coverage.

- II. √ Letter of Good Standing from the Newfoundland and Labrador Workplace Health, Safety and Compensation Commission.

- III. N/A For incorporated entities, current Certificate of Good Standing from the Commercial Registration Division, Department of Government Services, Newfoundland and Labrador.

6. Commencement of the Work

The Contractor shall not proceed with any Services until the Contractor Schedules have been executed by the Owner.

7. Contractor Obligations

Contractor obligations for performance of the Service arise only upon execution of the Contractor Schedules by both the Contractor and the Owner.

Schedule of Prices

Item No.	Description	Unit Price	Total
1.	Complete an assessment of the primary hardware and software technology components used to operate the Company's Customer Service System (as per attached Statement of Work)	Professional Fees: \$28,000 Travel: \$4000	\$32,000
HST (15% of Contract Price)			\$4,800
Total Estimated Contract Price			\$36,800

Notes:

1. The lump sums tendered in the Schedule of Prices shall be for the Service finished complete in every respect and they must include all incidental or contingent expenses and risks of every kind necessary to complete the Service in accordance with the Agreement.
2. The Contractor agrees that the quantities shown in the Schedule of Prices are estimates only and that payments will be made for the actual quantities as measured in the completed Service at the unit prices bid by the Contractor and shown in the Schedule of Prices.
3. HST is extra on all the above items.

Schedule of Personnel and Subcontractors

The service shall be supervised by the following personnel:

Name	Title	Cell Phone/Email
██████████	Managing Partner, St John's	██
██████████	Principal, Advisory Services	██

Subcontractors:

Company Name	Portion of the Work to be Completed
N/A	

Schedule of Equipment

The Contractor shall use the following Equipment. List to include off-road vehicles (All Terrain Vehicles, Snowmobiles etc.) that will be used.

Equipment	Type or Model	No. of Units	Owned or Rented
N/A			

Schedule of Experience

The Contractor represents that it has successfully completed those works of a similar nature and magnitude shown in this Schedule of Experience.

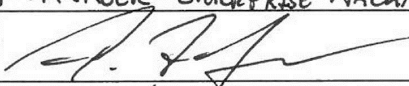
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

The Contractor, by signing and returning the Contractor Schedules, agrees to be bound by all of the terms and conditions of this Agreement.

Executed on behalf of the Contractor by:

Name (Please Print)	[REDACTED]
Title (Please Print)	[REDACTED]
Signature	[REDACTED]
Date	[REDACTED]

Executed on behalf of the Owner by:

Name (Please Print)	FRANK FLYNN
Title (Please Print)	MANAGER - ENTERPRISE ARCHITECTURE & SOLUTIONS DELIVERY
Signature	
Date	2018/06/15