

EXHIBIT 3
SCOPE OF SERVICES

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3.1 GENERAL

3.1.1 Objectives and Guiding Principles

The objective of the Agreement is for Consultant to provide, in accordance with the Project Milestone Schedule, all Services including Engineering Services, Procurement Services, Construction Management Services, and other project management services to satisfactorily meet Company's requirements as outlined in the Agreement and as required for the implementation of the Project as defined in Exhibit 2.

Consultant undertakes, in performing the Services, to fully cooperate and actively participate with Company in seeking beneficial ways to achieve Best Value for the Project and for the development option.

Consultant and Company negotiated the Agreement with the following principles as consideration for guidance during execution:

- Successful delivery of the Project is paramount;
- Unwavering corporate and staff commitment is fundamental to Project success;
- Parties will be solution oriented, not problem focused;
- Parties will be mutually collaborative and supportive;
- Philosophically, contract changes between the Parties will not be a focus item;
- Engineering will be executed in Newfoundland and Labrador. Specialized Engineering may occur outside the Province subject to Company approval and in compliance with the terms of Exhibit 9.
- Management of the Agreement between the Parties to be kept separate from Project execution.

Throughout the provision of Services, it is expected that Consultant and Company will espouse Nalcor Energy's core values:

- Open Communication - Fostering an environment where information moves freely in a timely manner;
- Accountability - Holding ourselves responsible for our actions and performance;
- Safety - Relentless commitment to protecting ourselves, our colleagues, and our community;
- Honesty and Trust - Being sincere in everything we say and do;
- Teamwork - Sharing our ideas in an open and supportive manner to achieve excellence;
- Respect and Dignity - Appreciating the individuality of others by our words and actions; and
- Leadership - Empowering individuals to help guide and inspire others.

3.1.2 Complete Scope of Services and Responsibility

Consultant is responsible for carrying out and providing, in accordance with the Agreement, design development, engineering including all follow-on engineering, procurement including all necessary contracting, construction management including management of specific Project Completions activities including Mechanical Completion, project management services including management of its Engineering Services, Procurement Services, and Construction Management Services as well as other project management services described herein, co-ordination with Company, Other Consultants, Contractors and Suppliers, and any other activities necessary to realize the Agreement objectives set out in Section 3.1.1.

Consultant shall provide all required resources and do everything necessary to perform and complete the Services satisfactorily in accordance with the Agreement.

Consultant shall, for the duration of the Agreement, assign the necessary qualified and experienced Personnel, facilities, equipment, supervision, tools and all materials, supplies, and other resources, and also use acceptable and efficient work processes required to realize the objectives of the Agreement.

The requirements described in Sections 3.2 to 3.10 herein and the Services to be provided under the Agreement are applicable, where relevant, to each discrete Component which comprises the Project as defined in Exhibit 2.

Company reserves the right to extend the Agreement to include any Components, including Gull Island, of other LCP development options as well as any scope associated with the connection of the Newfoundland transmission system to Nova Scotia.

3.1.3 Conformance of the Services

Consultant shall provide the Services to conform to the Company Supplied Data and all other requirements of the Agreement.

No deviations to the Company Supplied Data are to be made by Consultant without prior written approval from Company.

3.1.4 Staging of the Services

The Services shall be provided in Stages as described in Exhibit 4.

The staging of the Services is relevant solely to the determination of the Fixed Fee, as is more fully set out in Exhibit 4, and shall not reduce, vary or modify the nature or extent of the Services described in this Exhibit 3.

3.2 ENGINEERING SERVICES

3.2.1 General

Engineering Services includes the provision of complete engineering services including engineering management and supervision of engineering-specific Personnel for the Project.

Engineering Services shall be provided throughout all phases of Project implementation extending to start of Operations phase.

Engineering Services includes all Detailed Design and engineering necessary to meet the requirements of the contracts plan for the Project, and includes all Detailed Design Documentation including preparation of Design Briefs, design reports, engineering drawings, documents, technical specifications, functional specifications, and other technical content for inclusion in contract and procurement packages (both pre and post contracts award), system engineering, as well as the provision of analytical and technical support through to Project closeout. Engineering Services also includes all engineering required for the Mechanical Completion, Preservation, handover for commissioning, commissioning and turnover to Operations of all Project equipment and infrastructure, and includes all procedures and manuals required for those activities.

All Engineering Services shall be performed by experienced Personnel, and Consultant shall use the necessary tools, supplied by Consultant and endorsed by Company, to perform the Engineering Services in a professional manner and in accordance with accepted engineering practices. Consultant Personnel shall, as part of the provision of Engineering Services, provide all necessary support to the Project's contracting, procurement and construction activities.

3.2.2 Company Supplied Data

Significant engineering work was carried out by Company from 2007 through to 2010. A complete listing of the relevant documentation (as well as a selected listing of earlier study reports from 1997-2000 timeframe), is contained in Exhibit 6. Consultant shall develop the design and engineering for the Project using the information contained or referenced in the documents included in Exhibit 6. It is noted that a broader base of study reports dating back to the 1960's is also available in-house. As a result of the earlier work, the overarching Project definition is now in place as described in the "Lower Churchill Project – Basis of Design", document number LCP-PT-ED-0000-EN-RP-0001-01 listed in Exhibit 6. Services provided under the Agreement will build on, and not duplicate, the earlier work. Any deviations from the "Lower Churchill Project – Basis of Design" shall be strictly managed in accordance with the Project Change management requirements as described in Exhibit 5, Section 8 and detailed within the processes of Consultant's Project Change Management Plan.

3.2.3 Asset Management Considerations

Company believes it is vital to consider the long-term asset management during the engineering and design phase of the Project. Company defines Asset Management as *"the comprehensive management of asset requirements, planning, procurement, operations, maintenance, and evaluation in terms of life extension or rehabilitation, replacement or retirement to achieve maximum value for the stakeholders based on the required standard of service to current and future generations."*

Consultant shall ensure that Company's Asset Management principles are clearly embedded within all engineering and design activities for the Project, and ensure that the final design achieves the desired balance between cost and reliability.

3.2.4 Specific Services

Consultant shall, for each Component comprising the Project:

- (i) Identify all engineering deliverables, in total and for each discipline, and compile a complete deliverables listing necessary for the Services, and submit these for Company's review and acceptance;
- (ii) Identify activities associated with each deliverable and develop an estimate of person-hours to complete each activity;
- (iii) Schedule all activities and deliverables to completion to achieve the milestones contained within the Project Milestone Schedule;
- (iv) Develop and maintain a detailed critical path logic network for all engineering activities;
- (v) Complete all activities and deliverables in accordance with the Project Control Schedule;
- (vi) In accordance with Exhibit 5, Section 11, develop and implement a Review Plan for Company Documentation;
- (vii) During production of deliverables and on receipt of any further Company Supplied Data (hard and electronic copy), Consultant shall check, re-number (re-reference) and correct all cross-references;
- (viii) Prepare a detailed design procedure for each engineering discipline, and submit for Company's review and comment. The procedure shall include, as a minimum, design planning, preliminary design, detailed design, design reviews, design changes, design verification, and, if required, design validation;
- (ix) Produce a design suitable for efficient, economic, and safe construction and operation of the Project;
- (x) Prepare all procedures and manuals required for the Mechanical Completion, Preservation, handover for commissioning, commissioning and turnover to Operations, operation and maintenance of all Project equipment and infrastructure;
- (xi) Produce as-built drawings and update all design documentation to reflect all changes incorporated during construction and commissioning;
- (xii) Coordinate all Factory Acceptance Testing (FAT) and Site Integration Testing (SIT) and develop FAT/SIT procedures including provision for any Company witnessing and acceptance;
- (xiii) Strictly adhere to Consultant's Project Change Management Plan that has been accepted by Company; and
- (xiv) Develop Preservation specifications and a Preservation program for all equipment, materials, and other Project purchased items that will be supplied from Contractors and Suppliers for implementation through all phases of Mechanical Completion, handover for commissioning, commissioning and turnover to Operations.

3.2.5 Engineering Activities Related to Procurement and Contracts

Consultant shall:

- (i) Perform all engineering and produce all documents (drawings, material requisitions, specifications, reports, procedures, detailed bills of material, etc.) necessary for the efficient procurement of Procured Goods and Contracts;
- (ii) Identify any deviations of Contractors' and Suppliers' design Standards/design from the Agreement requirements and take appropriate action to ensure Contractors' and Suppliers' deliverables comply with the Agreement requirements;
- (iii) Update all related Consultant's deliverables/documents including specifications where applicable, and carry out any updates to deliverables/documents and/or additional specifications as required, to meet Project requirements;
- (iv) Review, accept, and incorporate into Company's Asset Management system, as applicable, Contractor and Supplier engineering data contained in relevant deliverables;
- (v) Control and coordinate all interfaces that impact procurement;
- (vi) Respond to Contractors' and Suppliers' queries in a timely manner;
- (vii) Participate actively in Quality surveillance activities (such as technical audits, inspections and tests) to verify and assure satisfactory Quality performance by Contractors and Suppliers prior to release for shipment;
- (viii) Develop cost estimates for procurement of goods and materials required for the Project; and
- (ix) Ensure Contractors and Suppliers provide drawings, documents, specifications, manuals and procedures, as specified in contracts / purchase orders, which meet Company's requirements.

3.2.6 Engineering Activities Related to Construction

Consultant shall:

- (i) Perform all engineering and produce all documentation necessary for the efficient construction and Completions of the Project;
- (ii) Control and coordinate all interfaces that impact design, fabrication, construction, Mechanical Completion, Preservation, and handover for commissioning;
- (iii) Establish adequately staffed Site teams to perform technical assessment of the Work, and to co-ordinate engineering information between the Site(s) and Consultant's central location;
- (iv) Respond to all Site queries in a timely manner. All Site queries shall be managed including logging and tracking by Consultant;
- (v) Participate actively in Quality surveillance activities (such as technical audits, inspection and tests) to verify and assure satisfactory Quality performance by Contractors;
- (vi) Develop and implement protocols for consideration and inclusion of constructability

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- requirements throughout engineering;
- (vii) Maintain a warranty register for all supplied equipment and ensure warranty is triggered when equipment is first commissioned at the Site(s);
 - (viii) Develop and establish a strategy for dealing with warranty and performance claims for acceptance by Company. Consultant shall establish and maintain a warranty and performance claims register and provide copy to Company on a monthly basis. The claims register shall be kept up to date to reflect the status of activity on each claim. Consultant shall provide due diligence in obtaining timely information to enable timely claims analyses to be performed; and
 - (ix) Provide initial survey control for the general layout of the Work.

3.2.7 Engineering Disciplines' Administration and Supervision

Consultant shall:

- (i) Plan, allocate, supervise, control and provide technical support for all engineering disciplines in relation to the Services to the highest Quality level;
- (ii) Prepare and update document/drawing registers;
- (iii) Perform discipline technical reviews of documents/ drawings to ensure adequacy and Quality of discipline design as well as conformance with safety and environmental design and Quality requirements;
- (iv) Ensure adherence to Consultant's Project Change Management Plan, as are described in Exhibit 5, Section 8;
- (v) Arrange, coordinate and attend Hazard and Operability (HAZOP) and Hazard Identification (HAZID) review sessions;
- (vi) Perform Safety Integrity Level (SIL) studies, value improving practices (constructability), and design reviews;
- (vii) Arrange engineering discipline meetings, meetings with Company, interface meetings, and any other meetings required for the effective performance of the Engineering Services; and
- (viii) Ensure that each discipline conforms to Agreement requirements, particularly as related to work practices and documentation.

3.2.8 Interdiscipline Checking / Technical Co-ordination

Consultant shall:

- (i) Perform thorough interdiscipline checks of documents/ drawings to ensure design interfaces have been adequately addressed;
- (ii) Ensure thorough interdiscipline technical review meetings are conducted as required;
- (iii) Check and comment on documents/ drawings received from external sources in a timely manner; and
- (iv) Provide technical input to and co-ordination with various disciplines/departments to

ensure interdiscipline consistency and compatibility.

3.2.9 Engineering Activities Related to Contractor / Supplier Selection and Performance

Consultant shall:

- (i) Participate in technical review and evaluation of submitted bids;
- (ii) Participate in pre-award meetings;
- (iii) Provide technical input to bid summary and recommendation report as required;
- (iv) Provide updated technical data as required for inclusion in purchase order and contract documents;
- (v) Promptly review and process engineering and other data as provided by Contractors and Suppliers;
- (vi) Promptly respond to clarifications, concession requests, etc. as issued by Contractors and Suppliers;
- (vii) Participate in kickoff meetings, FAT and SIT and associated meetings;
- (viii) Attend witness or hold points to ensure that materials and equipment are supplied to the appropriate Quality; and
- (ix) Participate in prequalification / assessment of Contractors and Suppliers

3.2.10 Engineering Activities Related to Health, Safety, and Environment (HSE)

Safety, health, and safeguarding of the environment are Company core responsibilities. Company promotes a philosophy that places emphasis on the strong consideration of safety and environment within the engineering and design activities. The goals are to:

- Promote inherent safety and environmental considerations in the Project;
- Achieve safer and environmentally acceptable constructability, operability, and maintainability of the Project;
- Assist with achieving a workplace where "Zero Harm - Nobody Gets Hurt";
- Ensure safety-by-design is considered;
- Minimize environmental effects by:
 - Design
 - Mitigation
 - Avoiding interactions, and
 - Design of changes which reduce the effects of interactions.

Consultant shall embed the concept of safety-by-design philosophy into the completion of the engineering activities. Consultant shall take all necessary measures to ensure health, safety and environment safeguarding are rigorously considered throughout the provision of Services and throughout the implementation of all Work.

In line with Company's Asset Management expectations and safety-by-design philosophy, Consultant shall be required to assemble and summarize all relevant safety and environmental engineering studies in a safety and environmental evaluation document. This document shall demonstrate that the Project elements have been designed and constructed to enable safe and environmentally responsible operation of the equipment and infrastructure. This may require, where appropriate, the use of risk assessment techniques such as Quantitative Risk Assessment (QRA). Consultant shall be required to present a summary description of the Project and the attendant safety critical elements and features and how these control the risks. Consultant shall be required to present a summary of any particular operational management or maintenance requirement(s) arising out of the design, which will need to be followed during the operation of the Project.

Consultant shall carry out all engineering activities and studies related to HSE in accordance with the safety-by-design philosophy, environmental mitigation philosophy and environmental rehabilitation philosophy and associated philosophies.

3.2.11 Engineering Activities Related to Materials

Material Selection Related to Consultant's Design

Consultant's material selection will be subject to Company's acceptance.

Material Selection Related to Consultant's Procurement

Consultant shall review Contractors' and Suppliers' materials selection and ensure it is consistent with the Consultant's design. Appropriate Quality assurance and control (material identification, traceability, Quality records, etc.) shall be employed during all phases of equipment manufacturing to ensure all material requirements are met.

Corrosion Protection

Consultant shall comply with the coating specifications and coating systems accepted by Company for all internal and external surfaces. Consultant shall develop, for Company's acceptance, detailed specifications for coating systems and for Preservation of coating systems prior to final turnover to Operations.

3.2.12 System Engineering

Consultant shall execute system engineering as part of the Services. This will include:

- Verification of Project technical interfaces among Consultant, its Subcontractors, Company, Other Consultants, Contractors and Suppliers; and
- Verification of Consultant's designs to function with other designs to form a complete system, free from unacceptable weaknesses.

Consultant shall clearly identify all internal interdependencies and all interdependencies among Consultant, its Subcontractors, Company, Other Consultants, Contractors, and Suppliers for the various parts of the Project;

Consultant shall perform system engineering to verify system integrity when changes to the design occur;

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Consultant shall take all necessary measures to fully support Project's system engineering requirements and activities;

With respect to consideration of system interfaces with other Components that may fall outside of Consultant's scope of Services, Company (or Other Consultants acting on behalf of Company's behalf) will provide direction to Consultant;

Consultant's Technical Interface Management System shall be used as a tool to help manage system engineering.

3.2.13 Final Documentation

Consultant shall prepare final documentation for the Project in accordance with Company's final documentation requirements and shall include all engineering documentation and data produced by Consultant as well as documentation produced by Contractors and Suppliers. Documentation and data shall be made available prior to the start of operator training.

All documentation and data submissions shall be in accordance with the requirements of Exhibit 5, Section 16. The requirements outlining the management of documentation / data including Company's interfacing, review and receipt requirements shall be facilitated by means of the Central Document Register which shall be produced by Consultant and accepted by Company. Company's review requirements shall be outlined in the register.

Consultant shall control all documentation / data in accordance with Company's requirements contained in Exhibit 5, Section 16. Consultant shall copy, file, and retain copies of the final manufacturer documentation / data for inclusion into the final documents to be handed over to Company prior to the Termination Date.

Throughout the provision of Services, Consultant shall provide Company with on-line access to, or electronic copies of, all relevant documentation / data, in addition to providing relevant hard copy documentation / data, all as outlined in Exhibit 5, Section 16.

Operating Procedures/ Manuals

Consultant shall prepare detailed operating manuals for all systems. The associated operating manuals shall be stand-alone documents, separate from all other requirements identified in the final documentation specification including Supplier data dossiers.

The operating manuals shall be specific to the Project and to the equipment actually installed. Generic pamphlets, leaflets and other suppliers' documentation of a similar nature shall not be accepted. The operating manuals shall include start-up, normal operation, normal shutdown, and emergency shutdown instructions. The operating instructions shall describe all operating parameters and product specification requirements. Operations covered shall include the following:

- Description of facilities;
- Normal operation, key operating parameters, operating constraints;
- Control system operation;
- Recommended pre-checks prior to commissioning;
- Units commissioning, start-up, operation, and shut-down;

- Emergency shut-down, includes partial and total shutdown; and
- Safety & fire protection system;
- Environmental protection plan for operation, including monitoring and surveillance activities.

Consultant shall include any information and instructions noted in Company's final documentation requirements.

Maintenance Manuals

Consultant shall prepare detailed maintenance manuals for each system.

The maintenance manuals shall consist of all system manufacturing data books/ catalogues, operating and maintenance manuals and any other information and instructions noted in Company's final documentation requirements and master Supplier data requirements list.

Consultant shall expedite, receive, log, and review all information including data books/catalogues, operating and maintenance instructions to verify that all information is complete.

Generic pamphlets, leaflets and other suppliers' documentation of a similar nature shall not be accepted.

Maintenance Support

Consultant shall develop, for Company's acceptance, a procedure for providing Company with information that Company requires to integrate all maintenance and spare parts information into Company maintenance management system. Consultant's information shall be in general accordance with Company requirements.

Consultant shall submit the procedure referred to above within 6 months of the Effective Date.

Final Documentation

Consultant shall provide final documentation including:

- User guides;
- Design books;
- Design criteria;
- Statistical reports;
- Health and Safety plan;
- HSE and design philosophies;
- Environmental Protection Plan for construction and operations;
- Consultant, Contractor and Supplier Quality Plans;
- Safety-related deliverables for the Project;
- Operating specifications and manuals;
- Maintenance manuals;
- Manufacturing data books;

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- Procurement-related data;
- Spare parts list;
- Fabrication dossiers;
- System test dossiers;
- Installation dossiers;
- Hydrotest dossiers;
- Mechanical Completion and testing records and dossiers including punch lists;
- Certification dossiers;
- Commissioning dossiers;
- Change control records;
- Contract specifications and procedures;
- As built documents and drawings, including those produced by Consultant, Subcontractors, Suppliers and Contractors;
- Handover of electronic files, including the document/drawing database and engineering database;
- Equipment registration (for material and maintenance system);
- Equipment and instrument dossiers;
- Hydraulic and line list dossiers;
- Instrument data sheet dossier (shall include all Consultant produced data sheets and Supplier supplied data sheets in one volume);
- Electronic models and files; and
- All software, data files and programs associated with control systems and equipment, as available.

3.2.14 Operator Training

Consultant shall assist Company in developing training requirements for operator training. Training requirements shall include recommendations from equipment Suppliers.

Consultant shall facilitate visits to Contractors / Suppliers facilities, especially during FAT and Completions, to gain early knowledge of the equipment and systems. Company Operations Personnel will attend such visits, as arranged by Consultant. Consultant shall provide test procedures to Company Operations Personnel prior to commencing FAT.

3.2.15 Design Liability / Responsibility

Design liability / responsibility for Detailed Design performed by Consultant shall be as per the Agreement.

Design liability / responsibility for the functional specifications produced by Consultant required for inclusion in selected Engineering, Procurement, and Construction type contracts wherein the successful Engineering, Procurement, and Construction Contractor(s) will

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perform detailed design as well as procurement and construction activities, shall reside with Consultant.

Design liability / responsibility for detailed design performed by others as part of their contractual obligations under Engineering, Procurement, and Construction type contracts will reside with the successful Engineering, Procurement, and Construction Contractor(s) and not with Consultant.

3.2.16 Value Improving Practices

Company is a strong proponent of the use of value improving practices as a means to improve cost, schedule and operability / reliability of the LCP.

Consultant shall provide the Services to ensure that best overall value is achieved for Company. Consultant shall be proactive in identifying and implementing value improving practices with regard to the optimizing the provision of the Services and to generate a Project design that is efficient and cost effective. Alternatively, Company reserves the right to introduce value improving practices to improve business practices specific to the Services. Where process or technology changes impact Consultant, Consultant shall be required to adopt the process changes or technology into its work practices as directed by Company.

Consultant shall employ life cycle cost / value analysis techniques during the specification and selection of equipment and designs for the Project. This process shall consider environmental concerns, compliance with legislation, and industry best practices. Company document "Lower Churchill Project – Life Cycle Cost Design Philosophy for Equipment, Assets and Structures" document number LCP-PT-ED-0000-EN-PH-0042-01 listed in Exhibit 6 provides guidelines and Company's expectations with respect to use of this technique.

3.2.17 Newfoundland and Labrador Requirements Related to the Practice of Engineering and Geoscience

The practice of engineering and geoscience in Newfoundland and Labrador is subject to the requirements of the Engineers and Geoscientists Act, SNL2008, Chapter E-12.1, An Act Respecting the Practice of Engineering and Geoscience.

Professional Engineers and Geoscientists of Newfoundland and Labrador (PEG-NL), is responsible for regulating the practice of Engineering and Geoscience.

Consultant shall provide its Services in compliance with the requirements of the Act and Regulations, and also with the requirements of PEG-NL.

3.2.18 Company's Technical and Design Integrity Oversight

Company will maintain oversight for technical and design integrity for the Project. Further details regarding Consultant's and Company's responsibilities and requirements, including engagement protocols, regarding Company's oversight for technical and design integrity, are described in Exhibit 5, Section 11.

3.3 PROCUREMENT SERVICES

Consultant is responsible, on behalf of Company, for procurement of Procured Goods (as set out in item (vii) below) and for issuing and managing, on behalf of Company, all construction-related and other Contracts required for the implementation of the Project.

Company or Consultant, on behalf of Company, may procure equipment and materials and free-issue to Contractors. However, Contractors may also purchase equipment and materials as agreed with Consultant and Company. Consultant shall recommend appropriate procurement and contracting strategies.

Consultant shall provide all resources to manage all aspects of procurement and contracting for the Work. Consultant shall implement a procurement organization including Key Personnel, all consistent with the requirements of the Agreement.

Consultant shall provide and maintain a materials management system. Consultant shall utilize proven systems and procedures, facilities and sufficient resources to identify, manage, and report on material requirements.

Consultant's scope shall include the tasks to produce deliverables that include those listed below. Exhibit 5, Section 6 outlines, in more detail, the responsibilities of Consultant.

- (i) Development of detailed construction and Completions schedule, consistent with the Project Control Schedule, for Company review and acceptance;
- (ii) All necessary purchasing, contracting, inspection, expediting and transportation services to obtain and deliver equipment and material and services required consistent with the Project Control Schedule;
- (iii) Overall management, control, monitoring and reporting of procurement and contracting activities;
- (iv) Assessment of Contractors and Suppliers during the pre-qualification process to determine their capability to perform the Work;
- (v) Preparation and issuing of tender packages;
- (vi) Commercial and technical evaluation of tenders;
- (vii) Preparation and issue of purchase orders and contracts in Company's name (Company will pay resulting invoices);
- (viii) Review and approval of Contractors' and Suppliers' progress payment requests and invoices, and submittal to Company for further processing and payment.
- (ix) Input orders and other procurement data in Consultant's materials management system;
- (x) Expediting and developing mitigating actions for delivery delays;
- (xi) Supplier source inspection and FAT;
- (xii) Report and manage non-conforming materials;
- (xiii) Arrangement of material deliveries and receiving inspection;
- (xiv) Stock control, storage and Preservation and security of materials and equipment;
- (xv) Develop and implement a material management strategy for bulk materials (e.g. fuel, cement, etc.) that will assure timely completion of the Work while minimizing surplus;
- (xvi) Provision of documentation for customs clearance for materials and equipment import into Canada;

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- (xvii) Develop a sparing philosophy and a list of recommended operating spares and special tools required to effectively start up and maintain the facility; and
- (xviii) Development and implementation of a Preservation program to include Preservation procedures, inspections, and reports to ensure that the equipment and materials are kept in a preserved state ready for use.

3.4 CONSTRUCTION MANAGEMENT SERVICES

3.4.1 General

Consultant shall provide overall management and oversight, including construction planning, management of Site(s), cost and schedule management, Contractor and Supplier management, risk management, management of change, etc., of all activities required for the successful construction and Completions of the Project while meeting Company's objectives of the LCP. Construction Management Services shall include:

- (i) Development and implementation of the detailed construction execution and management plans and support schedules for the Project;
- (ii) Development and implementation of all construction management processes and procedures;
- (iii) Overall management of Project Site(s), including provision of all support services and infrastructure (e.g. accommodations complex, medical facilities, security services, etc.) required by Contractors performing the Work;
- (iv) Overall management and oversight of all Work performed by Contractors at Site(s);
- (v) Administration of all Contracts for the Work;
- (vi) Overall management of Company's labour agreement used by Contractors;
- (vii) Overall management and oversight of all Project-related fabrication activities at all locations;
- (viii) Overall management and oversight of all Project-related transportation and logistics activities at all locations;
- (ix) Overall management and oversight of all Project-related installation activities at Site(s);
- (x) Overall management and oversight of Mechanical Completion, Preservation, and handover for commissioning, and provision of support services for commissioning and turnover to Operations activities at Site(s) required to implement the Project; and
- (xi) Implementation of all best practices, productivity improvement initiatives, risk mitigation, and lessons learned.

3.4.2 Pre-Construction Phase

Construction Management Services to be employed during the pre-construction phase of the Project shall include the following:

- (i) Development and implementation of construction execution and management plans including all strategies, organization, cost estimates, logistics, labor and work scheduling considerations;

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- (ii) Development and implementation of Project constructability-related processes, with consideration to the incorporation of industry best practices, productivity issues, risk issues, and lessons learned;
- (iii) Constructability reviews of the design, including reviews for the incorporation of construction safety elements logistics, location, & seasonality constraints, industry best practices, productivity issues, risk issues, and lessons learned;
- (iv) Development of construction contracting strategy and Project contract packages;
- (v) Completion of Contractors' and Suppliers' competency evaluations, including assessment of their Quality systems for capacity and capability to perform to the requirements stated;
- (vi) Development of cost estimates for the construction Work in order to establish the Project Budget;
- (vii) Development of detailed construction and Completions schedule;
- (viii) Development of overall productivity action plan for the Work in order to ensure that the Project is planned and executed with productivity as a key driver of success;
- (ix) Development of a logistics and materials movement plan;
- (x) Development and implementation of program to assess and address potential productivity issues and gaps in critical construction labor and supervision;
- (xi) Completion of modularization / prefabrication analysis for relevant Project components;
- (xii) Completion of a Project-level construction hazards analysis and mitigation plan that considers all physical safety and environmental hazards that may be encountered during construction, and Completions;
- (xiii) Industrial Relations (IR) planning and negotiations planning / labour estimates in conjunction with Company;
- (xiv) Establishment of construction safety targets and safety management programs for incorporation into Contracts;
- (xv) Establishment of construction environmental targets and environmental management programs for incorporation into Contracts;
- (xvi) Development of construction period staffing plan, roles and responsibilities, reporting structure;
- (xvii) Production and management of required construction management related procedures;
- (xviii) Development of strategies for overall construction progress, performance management and cost management;
- (xix) Provision of support to Company in the negotiation of labor collective agreements for the LCP;
- (xx) Provision of support to Company in the placement of Company's insurance program for the Project; and
- (xxi) Provision of input to, support for, and participation in the Newfoundland and Labrador Benefits program.



3.4.3 Construction Phase

3.4.3.1 General

Consultant's Construction Management Services to be employed during the construction phase of the Project shall include the following:

- (i) Guidance and leadership of multifunctional teams to advance the preparation and planning required to commence the main construction Work at the earliest possible opportunity in order to meet or exceed the Project Control Schedule and Project Budget;
- (ii) Management of the effort required to provide the engineering, procurement, commercial and environmental deliverables required to be able to place purchase orders, award contracts and commence and execute the main construction Work in accordance with the Project Control Schedule;
- (iii) Selection, hiring, training and deployment of Consultant's Site teams that will monitor and direct the Work performed by Contractors;
- (iv) Overall management and coordination of the Site teams, development of Site procedures to administer the Work by the Site Contractors;
- (v) Overall management of the Site(s) including the coordination and management of all common services (e.g. accommodations, medical facilities, etc.) provided by the Consultant, on behalf of the Company, to Contractors;
- (vi) Completion of the construction Work safely, on time and within budget respecting all environmental and other requirements and provisions;
- (vii) Ensure that the construction Work is delivered in accordance to Company's Quality objectives;
- (viii) Ensuring compliance with commitments made in Impact and Benefits Agreement during the planning/preparation phase and during the construction Work;
- (ix) Ensuring compliance with all Newfoundland and Labrador Benefits obligations; and
- (x) Day to day management, with construction Contractors, of labour agreements for Company.

3.4.3.2 Specific Construction Phase Responsibilities

Specific construction phase responsibilities Consultant shall be responsible for shall include the following:

- (i) **General**
 - Pre-mobilization planning;
 - Development and deployment of Site teams – all disciplines and functions;
 - Overall Site coordination / Site offices management;
 - Permits management, including acquisition and oversight;
 - Approval of Contractors' methods / plans / plant / Personnel;

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- Overall management of the Site;
 - Management of Site access;
 - Management of communication systems;
 - Assignment of measuring methods;
 - Reporting & establishment of reporting requirements;
 - Stewardship of management meetings;
 - Rejection of Work / replacement of defective Work;
 - Extra Work authorization / management of design changes & impacts on cost & schedule;
 - Support of the management of Company's insurance program for the Project; and
 - Establishment and provision of off-site warehousing, staging areas, and logistics offices necessary for the Project and for use by Company Personnel.
- (ii) **Health and Safety Management**
- Overall Project-level safety management including Site(s) safety oversight & coordination;
 - Development and implementation of safety management programs;
 - Review and approval of Contractors' safety management plans;
 - Review and consolidation of safety statistics reported by Contractors, Subcontractors and Suppliers;
 - Establish and maintain medical, emergency response, fire protection facilities and services at each Site(s);
 - Emergency response management and coordination at Site(s);
 - Coaching of Contractors to achieve the desired safety performance;
 - Chair the site-level safety steering committee; and
 - Establish and administer Site orientations for all Personnel, including diversity awareness and training.
- (iii) **Security Management**
- Development and implementation of Project and Site(s) security plan; and
 - Overall management of Site(s) security.
- (iv) **Environmental Management**
- Development and implementation of Environmental Management Plan for construction Works for acceptance by Company;
 - Environmental oversight / monitoring, coordination and management of Site(s);
 - Management of restrictions on construction operations; and
 - Development and implementation of environmental mitigations and rehabilitation plan for use during and post the construction Work.
- (v) **Site Technical & Engineering Interface**
- Assessment of excavated foundations / determination of foundation treatment and support requirements;
 - Interface with home office engineering / queries / expedite design decisions;
 - Timely issuance of approved for construction documents;



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- Review / approval of Contractors' drawings;
- Management of changed Site conditions;
- Management of rock support requirements;
- Management of alterations / additions;
- Review / approvals of alternates; and
- Timely / prompt response to Contractor queries, information requests, Change Requests, and decision making.

(vi) Quality Assurance

- Overall responsibility for Construction Quality;
- Ensuring that construction and installation activities are conducted in accordance with drawings, specifications and any special Supplier installation procedures;
- Ensuring that all applicable Standards, codes and jurisdictional regulations are observed and adhered to by Contractors;
- Providing oversight of Contractors' Quality assurance plans, including verification (through checking, surveillance and audits) that the procedures used and the results obtained are in compliance with Project's Quality requirements;
- Quality control, including quality control at Site(s) and fabrication plants;
- Providing attendance at factory acceptance testing (FAT) and system integration testing (SIT);
- Establishment of survey control system and necessary survey control points;
- Participation at inspection and tests;
- Approval of planned concrete Work prior to placement of concrete;
- Approval of completed Work, including all foundations, prior to covering up; and
- Operation of Site laboratories (soils / concrete / photography etc..).

(vii) Verification Activities

- Verification of Contractors' systems for:
 - management of Requests for Information (RFI) / queries from Contractors and Suppliers;
 - maintenance of change logs;
 - most current design information being constructed; and
 - design Standards and codes being used and any requests for deviations from applicable codes, Standards or specifications.

(viii) Logistics and Materials Management

- Overall logistics management for the Site(s);
- Oversee the provision of common logistics and materials management services at Site(s);
- Management of Company supplied items, if applicable;
- Management of storage / laydown areas and staging areas, at the Site and off-site;
- Site material management as required (commodities / receiving / OS&D / surplus / scrap / spares / etc.);
- Management of temporary facilities; and

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- Preservation of materials and equipment and storage, shipping and handling in accordance with associated Company reviewed methods and procedures.
- (ix) **Contracts Management**
- Contract coordination and management in accordance to Contract conditions and Consultant's processes;
 - Oversight of Contractors' procurement activities;
 - Warranty and claims management;
 - Conducting periodic audits of Contractors' files;
 - Settlement / resolution of disputes / claims in conjunction with Company; and
 - Management of Contractor change requests.
- (x) **Schedule Management**
- Management of overall Project Control Schedule and of discrete construction schedules;
 - Approval of Contractors' schedules ensuring alignment among Contractors and with overall Project Control Schedule;
 - Development and implementation of processes and procedures to monitor schedule(s) and to address issues;
 - Development and implementation of reporting protocols for Company's approval;
 - Development and implementation of progress verification methods and procedures to include all payment methods, progress measurements, quantity survey and verification, progress payments, payment measurement methods, and verification methods;
 - Regular reporting of progress and performance against the Project Control Schedule and Services Budget and Project Budget; and
 - Development of recovery schedules in case of actual or forecast schedule slippage of critical path activities.
- (xi) **Cost Management**
- Measurement and reporting of project costs including committed, incurred and earned cost against the Services Budget and Project Budget;
 - Identifying and management of all cost and schedule trends;
 - Monthly forecasting of estimate-at-completion for the Project and the Services; and
 - Management of Project contingency in conjunction with Company;
- (xii) **Productivity Management**
- Leading effort to maximize productivity on the Site(s) and to engrain a productivity mentality into the Site(s) culture; and
 - Measurement of actual productivity, and development of productivity improvement initiatives.

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(xiii) Risk Management

- Development and implementation of risk identification and management program including roll-out and full engagement / usage of all Contractors in accordance with Consultant's Risk Management Plan;
- Development and implementation of risk challenge process to preclude usage of contingency funds as a first line of defense to address risk issues;
- Development and implementation of process for identification of emerging risk issues; and
- Stewardship of Contractors' risk monitoring and management processes and plans.

(xiv) Document Management

- Overall document management function at the Site(s) including document control, document transmittal capability and document status reporting;
- Implementation of a disaster recovery plan for all documentation and data;
- Regular audit of Contractors' systems / documents; and
- Management / stewardship of as-built documentation.

(xv) Labour Management

- Development and implementation of processes and procedures to manage, report on, and analyze labour usage and productivity;
- Implementation of remedial actions to address issues regarding critical skills gaps;
- Oversight of Project labour agreements, in particular being used by construction contractors;
- Administration of dispute resolution mechanisms as outlined in Project labour agreements; and
- Implementation of policies and procedures related to Personnel on site.

(xvi) Newfoundland and Labrador Benefits

- Specification of requirements for Newfoundland and Labrador Benefits reporting in Contracts;
- Oversight of Newfoundland and Labrador Benefits reporting for Contractors within Company processes and systems; and
- Monitoring of Newfoundland and Labrador Benefits, in conjunction with Company, and manage all corrective actions.

3.4.3.3 Site Teams

At each Site, Consultant shall have a management team fully capable of providing Construction Management Services in support of the Work in order to achieve satisfactory completion in accordance with the Project Control Schedule.



3.4.4 Activities Related to Mechanical Completion, Preservation, Handover for Commissioning, Commissioning and Turnover to Operations

Consultant shall be responsible for developing a Project Completions philosophy for Company acceptance. The purpose of this philosophy is to provide a concise set of guidelines for the execution of Mechanical Completion, Preservation, handover for commissioning, commissioning and turnover to Operations activities, and to establish and maintain a Completions system for all phases of the Project.

The overall goal of Project Completions is to verify and document that all equipment/systems/infrastructure are fabricated and installed as specified, and tested to ensure they function as designed. Safety will govern all decisions.

Contractors and Suppliers, under the management of Consultant, are responsible for performing installation and Mechanical Completion, Preservation, and handover for commissioning activities. Contractors and Suppliers are responsible for development of documentation related to Mechanical Completion including procedures, manuals and other documents required for the Mechanical Completion activities. Consultant shall provide the overall direction to Contractors and Suppliers for these deliverables and shall coordinate the production of the required manuals and procedures in a standard and uniform format to be developed by Consultant and applied to all Contractors and Suppliers.

Consultant, in conjunction with Company, shall define a Completions organization. The organization will include discipline technicians to monitor Completions and to support all Project Completions activities and tests as required. The Completions organization shall include key Company and Consultant Personnel. Consultant shall be responsible for developing an Execution Plan that shall detail how all required activities shall be accomplished to achieve Mechanical Completion, Preservation, handover for commissioning, commissioning and turnover to Operations.

Completions documents are to detail and define as a minimum:

- Completions organization, detailing key positions and roles and responsibilities within the organization during all phases of Project Completions;
- Commissioning packages and boundary drawings for systems / equipment;
- Outline of Mechanical Completion packages;
- Content of Mechanical Completion packages by tag / item number and allocated Inspection Test Record;
- Mechanical Completion (MC) forms including Inspection Test Records forms, Punch List forms, and MC handover forms.
- Mechanical Completion Inspection Test Records;
- The Project Completions System (PCS) computerized system or other;
- Quality assurance and Quality control activities;
- Development of Project specific Completions procedures for items such as:
 - Punch List of work;
 - Preservation;

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- Permit to work;
- Material handling;
- Lock out tag out for equipment;
- Handover documentation (i.e. from Mechanical Completion to commissioning, commissioning to Operations);
- Level of Mechanical Completion for Contractors and Suppliers;
- Commissioning static and dynamic documentation such as commissioning check lists, run logs, and other documentation; and
- Commissioning procedures.

Consultant shall select, for Company acceptance, and utilize a computer-based Completions system that tracks and documents system / equipment Mechanical Completion, Preservation, handover for commissioning, commissioning and turnover to Operations. This system will also form the basis for the stages of Company's acceptance of the equipment and infrastructure. Consultant shall populate this system with all the required data. Consultant shall also provide trained Personnel to operate the PCS system.

Consultant shall furnish Company with Completions test dossiers that include all mandatory test and inspection certificates, and the reports that Consultant and Contractors have completed to demonstrate Completions. Consultant shall also furnish a complete set of "As-Built" documentation together with commissioning and operating / maintenance manuals.

Additional information regarding Consultant's and Company's responsibilities and requirements, as well as definitions regarding Mechanical Completion, Preservation, handover for commissioning, commissioning and turnover to Operations, are contained in Exhibit 5, Section 13.

3.5 SPECIFIC SERVICES REQUIRED IN SUPPORT OF COMPANY'S GATEWAY PROCESS

3.5.1 General

Company is developing the LCP using its staged-gate delivery method referred to as the Gateway Process. The Gateway Process, (refer to Figure 1 - Lower Churchill Project Gateway Process), acts as a decision assurance process that has been and continues to be used to guide Company's strategic planning and execution activities for the LCP. The Gateway Process serves to ensure Quality decision-assurance at crucial points in a project's lifecycle.

As part of the Services, Consultant shall produce pre-defined "readiness" deliverables, referred to as Key Deliverables, as listed below, which are required by Company under the Gateway Process. Consultant shall, building upon Company's existing work, produce these Key Deliverables for Company's review and acceptance prior to the decision gate for which they are required.



Gateway Process

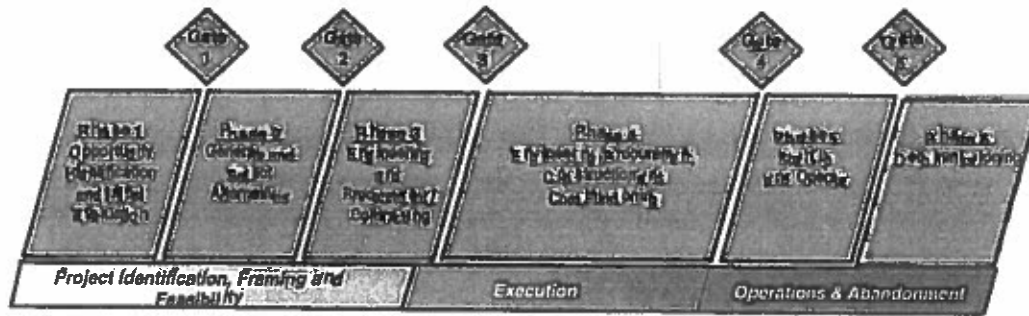


Figure 1 – Lower Churchill Project Gateway Process

Consistent with the Key Deliverables of Gate 3, Consultant shall complete the level of Project definition (i.e. engineering design, procurement and construction planning) in order for Consultant, in conjunction with Company, to produce a Class 3 Estimate (as defined under the Association for Advancement of Cost Engineering (AACEI) International cost estimate classification system) and equivalent detailed schedule for the Project required for the Gate 3 decision gate process.

3.5.2 Key Deliverables Produced by Consultant

3.5.2.1 Gate 3 Deliverables

Company specified Key Deliverables for Gate 3 shall include the following:

- Detailed cost and schedule estimates for complete Project execution, with an accuracy of AACEI Class 3 Estimate equivalent;
- Organization design and practices for Gateway Process Phase 4 in-place with all key staff mobilized and plan for mobilization of remaining team in-place;
- Updated Basis of Design for Project completed (in conjunction with Company);
- All design technology and processes selected and accepted by Company;
- Project-specific design criteria documented for all disciplines and Issued for Use;
- Project-specific equipment specifications issued for design, as required to meet Consultant’s contracting plan;
- Project-specific bulk materials specifications, as required to meet Consultant’s contracting plan, approved by Consultant and accepted by Company;
- Project Site / plot plans - layout plan frozen;
- All geotechnical surveys and data acquisition and analyses complete;
- Gateway Process Phase 3 engineering and Detailed Design deliverables complete as

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- required to meet Consultant's contracting plan;
- Approved for Design (AFD) and Approved for Construction (AFC) Process Hazard Analysis (PHA) and Hazard Operability Reviews (HAZOPS) completed, commensurate with the maturity of engineering;
 - Constructability Review, commensurate with maturity of engineering, completed for Project supported by level 4 construction schedule and documented construction philosophy;
 - Project Control Schedule, supported by detailed construction and Completions schedule, in place with primary critical path(s) identified;
 - Overall productivity action plan for the Work in place and accepted by Company;
 - Project Execution Plan for Gateway Process Phase 4;
 - Contract plan in-place for implementation of the Project;
 - All equipment packages defined;
 - Procurement underway for all long-lead items in accordance with procurement plan;
 - Construction Management Plan - temporary facilities and services identified;
 - Project management processes and supporting tools in place;
 - Logistics and freight forwarding plan in place, ready for use / being used;
 - Project Information Management and technology plan implementation complete;
 - Project Quality Plan in-place;
 - Environmental compliance monitoring plan in place / being used;
 - H&S management plan in place / being used;
 - Project Change Management Plan - implementation complete;
 - All key Interfaces identified and Technical Interface Management Plan in-place / being used;
 - Labour recruitment plan in-place (in conjunction with Company);
 - All consents, permits and licenses required identified with early consents, permits and licenses received with no schedule showstoppers identified;
 - Environmental effects management program in-place and ready to be deployed;
 - Lessons learned / value improvement practices review and implementation complete for Gateway Process Phase 3;
 - Operability review complete on the overall Project design and configuration, commensurate with the maturity of engineering;
 - Sparing strategy in-place;
 - Life cycle value analysis design reviews complete, commensurate with the maturity of engineering;
 - Completions philosophy in-place;
 - Operability Standards for equipment selection defined, commensurate with the maturity of engineering;

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- Documentation for Operations strategy in-place with turnover protocols defined; and
- Office, equipment, IS/IT and infrastructure plan for Gateway Process Phase 4 in place.

3.6 CONSULTANT'S PROJECT MANAGEMENT SERVICES

3.6.1 General

Consultant's project management services include management of its Engineering Services, Procurement Services, Construction Management Services, management of the construction Work, as well as other project management services described herein.

Consultant shall have an efficient management organization, fully supported by effective systems and procedures, to ensure that all project management services are performed to meet fully the safety, environmental, Quality, price, schedule, and other requirements of the Agreement.

Consultant shall provide:

- Sufficient numbers of suitably qualified and skilled Personnel with relevant experience;
- Suitable facilities;
- All necessary systems, procedures, tools and methods; and
- All other resources required for the proper performance and completion of the Services.

Consultant's project management services include:

- Overall management of the Services and the Work;
- Development and implementation of an Execution Plan for provision of the Services and implementation of the Project;
- Technical interface management;
- Quality management;
- Safety and security management;
- Environmental management;
- Cost management;
- Schedule management;
- Risk management;
- Project Change Management;
- Engineering management;
- Procurement, contracting and materials management;
- Construction and Mechanical Completion management;
- Engineering and drafting control;
- Information Management;
- Invoice and payment management for the Services; and

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- **Newfoundland and Labrador Benefits Monitoring.**

Consultant is responsible for the proper management and delivery of the Services, wherever performed, and it shall have appropriate representation at Site(s) to ensure the safe and timely performance of all elements of the Services in accordance with the Quality Standards and other requirements set out in the Agreement. Consultant shall keep Company fully informed at all times of progress and areas of concern.

Further details regarding Consultant's responsibilities and requirements related to the Consultant's project management services are described in Exhibit 5.

Company shall assist and advise Consultant, as Company, in its sole judgement, considers appropriate in relation to Consultant's performance of the Services without this relieving Consultant in any way of its responsibilities, duties and obligations under the Agreement.

3.6.2 Execution Plan for Provision of the Services and Implementation of the Project

In accordance with the requirements described in Exhibit 5, Section 1, subsequent to the execution of the Agreement, Consultant shall prepare a final Execution Plan for the provision of the Services and implementation of the Project for review and acceptance by Company. Consultant's Execution Plan shall be predicated upon the composition of the Project, scope of the Services and the Project Milestone Schedule.

Consultant's Project Execution Plan shall describe in detail Consultant's strategies and plans for provision of the Services and delivery of the Project. All subsequent changes to the Project Execution Plan shall be submitted for review and acceptance by Company.

Further details regarding general execution planning are described in Exhibit 5, Section 1.

3.6.3 Technical Interface Management for the Project

Consultant shall develop, implement, operate and manage a dedicated Technical Interface Management System and associated processes for the Project. The system will serve as a management tool to facilitate the management of all Project related technical interfaces throughout Project execution. The system will encompass all Hard and Soft Interfaces identified through Project development. The system will also address technical interfaces with other components that may fall outside of Consultant's scope of Services.

As part of the Services related to technical interface management, Consultant shall manage and coordinate all interfaces internally, and with Company, Contractors, Sub-contractors, Other Consultants, and Suppliers. Consultant shall develop a Technical Interface Management Plan to actively manage the interface system, and shall carry out all required interface activities to ensure successful implementation of the system and timely closeout of all interfaces.

Consultant shall appoint a Technical Interface Manager who shall be responsible for the Technical Interface Management System and its overall management, and who shall be the focal point for interface co-ordination, response, and closeout, and reporting for the Project.

Further details regarding Consultant's responsibilities and requirements related to technical interface management are described in Exhibit 5, Section 3.

3.6.4 Quality Management

Company LCP documents "LCP Quality Policy", document no. MSD-QM-001 and "LCP – Overarching Quality Management Plan", document no. LCP-PT-MD-0000-QA-PL-0001-01 listed in Exhibit 6 lay out Company's overarching philosophies, goals, objectives and expectations in the area of Quality assurance and Quality control, and act as a framework for all LCP Quality activities. These documents act as a guide with respect to Project Quality for Company, as well for Consultant, Other Consultants, Subcontractors, Contractors and Suppliers providing services or work for LCP.

Consultant shall carry out its Quality management to ensure that the Services, and ultimately the Work, are executed to meet all the requirements of the LCP Quality Policy and LCP – Overarching Quality Plan and the Agreement, with the objective of eliminating defects, non-conformances and the need for remedial work.

Consultant shall ensure, through the proper operation of a Quality system conforming to the principles of an internationally recognized Standard such as the ISO 9000 series of Standards, systematic and satisfactory:

- Project management of the Services;
- Planning of every aspect of the Services;
- Execution of every element of the Services;
- Verification of all Services as they are performed to confirm that they meet all the requirements of the Agreement; and
- Auditing, surveillance and inspection to ensure the Quality objectives are fulfilled.

Consultant's Quality management of the Services includes all Quality-related functions at Site(s), including Quality assurance and Quality control.

Further details regarding Consultant's responsibilities and requirements related to Quality management for the Services are described in Exhibit 5, Section 5.

3.6.5 Health and Safety Management

Company is committed to providing a safe and healthy workplace for its employees, Consultant, Subcontractor, Other Consultants, Contractors, Suppliers and the general public. Company's goal is a workplace where "Zero Harm - Nobody Gets Hurt" – and an environment where each and every employee is always concerned for their own safety and the safety of others. Consultant shall pay the highest regard to health and safety, and shall meet or exceed Company's requirements.

Consultant shall be responsible for completion of the Services and the Project without accident or incident, and is solely responsible for:

- Providing a healthy and safe working environment at Site(s);
- Safe performance of the Work by all Personnel; and
- Actively promoting the importance of health and safety at Site(s).

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Consultant shall ensure safety through the proper operation of a safety management system including safety risk assessment procedures conforming to the principles of internationally recognized safety Standards applicable to all phases of the Work.

Consultant's safety management shall include all safety-related functions at Site(s) to protect the well being of all Personnel, and to prevent loss of or damage to property.

Consultant shall place a strong emphasis on coaching Subcontractors, Contractors, and Suppliers to achieve a workplace where nobody gets hurt.

Consultant's safety management services for the Project shall include the evaluation, selection, and management of Subcontractors, Contractors and Suppliers who are able to execute the work safely.

Consultant shall provide all required administration support, Personnel resources, systems, processes, and anything else required to enable Consultant to provide safety management services to meet the requirements of the Agreement.

Consultant shall prepare Site(s) specific safety plans to address safety management at each Site(s), and shall ensure that Subcontractors, Contractors, and Suppliers' safety management systems and plans reflect the requirements within Consultant's safety management system.

Further details regarding Consultant's responsibilities and requirements related to health and safety management are described in Exhibit 5, Section 4.

3.6.6 Environmental Management

Consultant shall pay the highest regard to protection of the environment in carrying out the Services. Consultant shall conform to all Agreement requirements, including Company's environmental guidelines and policies in this regard.

Consultant's objective is to ensure through the proper application of its environment protection procedures such that the Work is:

- Managed, planned and engineered to minimize any impact upon the environment;
- Performed and completed without incidents detrimental to the environment; and
- Performed in full compliance with the environmental policy objectives.

Consultant shall ensure environmental compliance through the proper operation of an environmental management system.

Consultant's environmental management shall include all environment-related functions at Site(s) to protect the environment, and to prevent environmental impacts.

Further details regarding Consultant's responsibilities and requirements related to environmental management are described in Exhibit 5, Section 17.

3.6.7 Cost Management

Consultant shall be responsible for overall cost management of the Services and the Work against the Company approved control budget and Code of Accounts. Cost management shall include the establishment of an approved control budget; as well as the tracking,

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monitoring and reporting of all commitments and incurred cost against the approved control budget in order to detect potential variances or trends.

Consultant shall provide all required administration support, Personnel resources, systems, processes, and anything else required to enable Consultant to provide its cost management services to meet the requirements of the Agreement.

Consultant's cost management services shall include the use of a trend management system to act as an early warning system of potential change and facilitate Consultant's management of potential changes and accurate forecasting of cost against the approved control budget.

Consultant's cost management services must be fully integrated with its Schedule Management services in order to for Consultant to produce timely progress and performance reports using Earned Value Management practices.

Consultant shall specify to Sub-Contractors, Contractors, and Suppliers the requirements for cost management and reporting, and shall receive, analyze, approve and integrate Subcontractors, Contractors, and Suppliers' data and information as input into Consultant's cost reports.

Consultant shall produce regular cost reports for the Services and the Project as specified within the Agreement.

Further details regarding Consultant's responsibilities and requirements related to the provision of cost management services are described in Exhibit 5, Section 7.

3.6.8 Schedule Management

Consultant shall be responsible for overall schedule management of the Services and the Work against the Project Milestone Schedule, contained in Exhibit 7. Consultant shall develop a Project Control Schedule for the Services and the Project, for approval by Company, that reflects both the milestones contained within the Project Milestone Schedule, and the Consultant's Project Execution Plan.

Consultant's schedule management responsibilities shall include the development of schedules; analyzing schedule using Earned Value Management practices to detect variances / trends; forecasting completion dates; report the progress against accepted schedules; and taking corrective remedial action against negative schedule variance.

Consultant shall specify to Contractors, Sub-Contractors, and Suppliers the requirements for development and approval of schedules, management and reporting against these schedules, and shall receive, analyze, approve and integrate Subcontractor, Contractor, and Supplier data and information as input into Consultant's schedule management and reporting activities .

Consultant shall provide all required administration support, Personnel resources, systems, processes, and anything else required to enable Consultant to provide its schedule management services to meet the requirements of the Agreement.

Further details regarding Consultant's responsibilities and requirements related schedule management are described in Exhibit 5, Section 18.

3.6.9 Risk Management

Company has implemented a formal risk management system for the LCP under the umbrella of its corporate enterprise risk management program. Company's risk management program for the LCP has the objectives of:

- Identifying and analyzing risks and opportunities which have potential safety; environmental, operational, cost, schedule or reputation implications;
- Utilizing knowledge of these risks and opportunities to facilitate more effective decision making by removing uncertainty and / or capitalizing on the opportunity;
- Responding to identified risks in a timely and cost effective manner in order to control their potential adverse and / or beneficial impact; and
- Allocating or transferring risk ownership to the party who can most efficiently and effectively manage the risk.

Consultant is responsible to ensure an understanding of the documentation requirements of Company, to participate in the Company's overall risk management program for the LCP.

Consultant shall develop and implement a risk management plan for the Project under the framework of Company's risk management program, and shall lead project-level risk management activities for the Project.

Further details regarding Consultant's responsibilities and requirements related to risk management are described in Exhibit 5, Section 10.

3.6.10 Project Change Management

Consultant shall be responsible for the management of change to the Project, including changes to the Services, the Work, Lower Churchill Project Basis of Design, organization, and all other changes to the Project. Consultant shall ensure that all changes to the Project are managed in order to achieve Company's objective for the LCP.

Further details regarding Consultant's responsibilities and requirements related to Project Change Management are described in Exhibit 5, Section 8.

3.6.11 Engineering Management

Consultant shall manage all engineering in relation to the Services, giving particular consideration to all requirements and interfaces of design, procurement, construction, Completions and Operations. Consultant shall ensure that all engineering in relation to the Services conforms to all requirements of the Agreement, including particularly those of the Government Authorities.

Consultant shall request and obtain Company approval prior to sub-contracting any Engineering Services.

Further details regarding Consultant's responsibilities and requirements related to the management of Engineering Services, including responsibilities and requirements regarding Company's oversight for technical and design integrity, are described in Exhibit 5, Section 11.

3.6.12 Procurement and Contract Management

Consultant shall provide all required administration support, Personnel resources, systems, processes, and anything else required to enable Consultant to provide its procurement and contract management services to meet the requirements of the Agreement.

Further details regarding Consultant's responsibilities and requirements related to procurement and contract management are described in Section 3.4 in this Exhibit 3 and in Exhibit 5, Section 6.

3.6.13 Construction and Completions Management

Consultant shall provide all required administration support, Personnel resources, systems, processes, and anything else required to enable Consultant to provide its Construction Management services including management of specific Project Completions activities including Mechanical Completion, to meet the requirements of the Agreement.

Further details regarding Consultant's and Company's responsibilities and requirements related to the provision of construction management services are described in Exhibit 5, Section 12.

Further details regarding Consultant's and Company's responsibilities and requirements regarding Project Completions activities are described in Exhibit 5, Section 13.

3.6.14 Information Management

Information Management (IM) for the LCP includes the management of all information created, generated or received as a result, or in support of, the activities required for planning, execution and Project implementation. Included are the associated processes, resources and tools required to manage this information throughout its life cycle.

The specific functional areas of IM required for the Project are:

- Records management;
- Document Management/Control;
- Data Management;
- Information Systems/Information Technology (IS/IT), and
- Information Security.

Project document "Lower Churchill Project – Information Management Policy" document number LCP-PT-MD-0000-IM-PY-0001-01 and Project document "Lower Churchill Project - Information Management Plan" document number LCP-PT-MD-0000-PL-0003-01, listed in Exhibit 6 provides the overall policy, strategy and direction with respect to Information Management for the LCP.

Consultant shall establish secure, Agreement-specific, Information Management system(s), acceptable to Company, and meeting Company's expectations and requirements as outlined in the document "Lower Churchill Project - Information Management Strategy". The Information Management system(s) shall be capable of efficient capture, distribution/dissemination, management, filing and retrieval of all data and documentation in relation to the Services.



Consultant shall:

- Maximize the use of electronically-accessible documents and data on a common or integrated system where possible;
- Ensure the latest version of all information shall be readily available to all relevant parties (including Company, Subcontractors, Suppliers, Other Consultants, and Contractors) at all times;
- Establish control procedures to prevent the use of outdated documentation or data by any party;
- Have satisfactory infrastructures, systems, procedures and resources to ensure the security of all documentation and data;
- Provide disaster recovery plans for both hard copy and electronic information, and
- Format and deliver all electronic documentation and data in compliance with Company's requirements.

Coding of all information pertaining to the LCP shall be in accordance with document "Lower Churchill Project – Coding Standard", document number MSD-IM-008 listed in Exhibit 6. Further details regarding Consultant's and Company's responsibilities and requirements related to Information Management are described in Exhibit 5, Section 16.

3.6.15 Invoice and Payment Management

Consultant shall provide all required administration support, Personnel resources, systems, processes, and anything else required to enable Consultant to manage invoicing and payment for its Services.

Further details regarding Consultant's and Company's responsibilities and requirements regarding invoicing and payment are described in Exhibit 5, Section 14.

3.6.16 Engineering and Drafting Control for the Project

Consultant shall implement comprehensive engineering and drafting controls for the Engineering Services. All procedures shall be structured to ensure that there is a common approach to the design and that the design errors are minimized. Central to these controls shall be an Engineering Management Plan that shall be issued for acceptance by Company in accordance with Exhibit 5, Section 11. The mechanisms for checking and approval of all calculations, specifications, data sheets, and drawings will be adopted and strictly adhered to. Checking and approval of these documents shall be within scope of the Services. Consultant shall ensure that this procedure is strictly implemented.

As part of its Engineering Management Plan, Consultant shall develop a drawing control procedure for acceptance by Company in accordance with Exhibit 5, Section 11. This procedure should address 3D, CADD, GIS, manual drafting, and any other method. The procedure shall have particular emphasis on the unique drawing control problems associated with CADD drafting. The CADD procedure should ensure adequate backup is maintained and that the control of plotted drawings is sufficient to prevent duplication of out of date drawings.

All technical documentation completed by Consultant, Subcontractor(s), Contractors and Suppliers shall meet Company's requirements.

Further details regarding Consultant's responsibilities and requirements related to engineering and drafting control are described in Exhibit 5, Section 11.

3.7 COMPLIANCE WITH PROJECT MILESTONE SCHEDULE

Consultant shall perform all Services and prepare all plans and schedules required for the detailed planning and management of the Services and the Project to meet the Project Milestone Schedule. Such plans and schedules shall address all Services' activities without limitation, including Engineering Services, Procurement Services, Construction Management Services including commissioning services to ensure that the Project is completed on schedule in accordance with the requirements of the Agreement.

Consultant shall identify potential risks to the schedule-critical elements of the Services and shall develop contingency plans to ensure prompt implementation of pre-emptive and corrective actions whenever they are needed.

3.8 OFFICE FACILITIES AND SERVICES FOR COMPANY

Consultant shall provide office facilities and associated services to the Company as required by Company during the execution of the Agreement.

Exhibit 5, Section 2 sets out the details of office facilities and associated services that shall be provided by Consultant for Company.

3.9 REGULATIONS AND PERMITTING

3.9.1 General Requirements

Consultant shall comply with all relevant Laws, including conditions of Environmental Assessment release, and / or regulations of any governmental authorities having jurisdiction with respect to the Services.

Consultant shall prepare all documents, drawings, Design Briefs, analyses, manuals, etc. as required by any governmental authorities with respect to the Services.

Company Document PM0010 "Regulatory / Permitting List" located in Exhibit 6 highlights the consents, licenses, permits, notifications and approvals that may be required by the LCP, covering the Project phases from pre-construction through to Operations.

Consultant shall determine and put into effect all regulatory, and permitting requirements, including conditions of Environmental Assessment release, affecting the performance of the Services, including design, engineering, procurement/manufacture, transportation, construction, and Completions activities.

Consultant shall prepare and issue a regulations register in accordance with the requirements outlined in Exhibit 6 identifying the current (or otherwise specifically applicable) version of all documents that contain regulatory, certification, and permitting requirements applicable to the design, engineering, procurement/manufacture, fabrication,

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transportation, construction, and Completions for the Project. Consultant shall keep the regulations register fully updated at all times throughout the performance of the Services. The register shall identify the latest editions of such documents and where Consultant and/or Company Personnel can access each document freely. Note that the editions of these documents that are current at the time of Agreement signing will be the basis of design and construction. Updates and later editions that are issued during the course of the Agreement are to be reviewed by Consultant and the effects on the Services and on the Project provided to Company for evaluation.

3.9.2 Regulations

Consultant shall be familiar and comply with the technical and safety requirements of Canadian Standards and Laws related to environmental, safety and health issues where applicable in Consultant's and Subcontractors' work location(s).

In performing the Services, Consultant, its Subcontractors shall be familiar with and comply with all Laws for equipment and facilities certification. This applies to actual equipment used during fabrication at Contractor or Supplier locations.

Consultant is responsible for cooperation and coordination with the Government authorities including arranging the supply of necessary documents, drawings, calculations, etc. wherever required as determined during any process for equipment and facilities certification associated with the Project. The form of cooperation includes arranging provision of access for Company and any third party inspectors to Site(s) and documents, drawings, and calculations.

3.9.3 Permitting

Consultant is responsible, except as otherwise noted, for obtaining all regulatory permits, approvals, consents, documents and licenses required for performing the Work. Consultant shall develop and maintain a permit plan identifying permits required, dates required, and submittal and expected processing durations. Both permits and certifications will be covered in this plan. The Consultant shall identify permits which can only be obtained by Company. Company will be responsible for obtaining these permits with the assistance and input from the Consultant.

Consultant is responsible for producing and providing any information and documentation required for Company to obtain all applicable Governmental Authorities' approvals. As requested by Company, Consultant shall submit copies of Project documentation and technical information to Governmental Authorities to enable Company to secure such permits.

Any consequences for non-compliance of Consultant to the required permits, documents and licenses to perform the Work shall be to Consultant's account including payment of fines. Consultant shall use reasonable efforts to require compliance by Contractors and Suppliers. Consultant is responsible for obtaining documents such as visas and work permits for its Personnel.

Further details regarding Consultant's responsibilities and requirements related to regulations and permitting and engineering are described in Exhibit 5, Section 17.

3.10 NEWFOUNDLAND AND LABRADOR BENEFITS OBLIGATIONS AND REPORTING

Company is committed to supporting the accrual of benefits for the people of Newfoundland and Labrador, with Labrador residents benefiting from both business and employment opportunities. To ensure maximum return on investment and in turn to maximize benefits for the people of the Province, the LCP will be executed on an economic basis adhering to competitive business practices.

Consultant shall work together with Company and all LCP stakeholders (the public, suppliers of goods and services, the workforce and governments) to promote opportunities in Newfoundland and Labrador while maintaining the economic viability of the LCP through access of Best Value in the acquisition of goods and services. Consultant shall commit to the following:

- A. Consultant and Company shall work together to form a high performing team to optimize Newfoundland and Labrador Benefits on the Project;
- B. Consultant and Company shall work together to develop and execute an implementation plan consistent with the objectives and principles committed to by Company as relating to optimizing Newfoundland and Labrador Benefits on the Project;
- C. Consultant and Company shall work together to develop and implement a contracting and purchasing policy consistent with the objectives outlined in Exhibit 9 Newfoundland and Labrador Benefits;
- D. Consultant and Company shall work together to ensure information relating to Newfoundland and Labrador Benefits is collected and available for reporting purposes by Company.

Further details regarding Consultants responsibilities and obligations are described in Exhibit 5, Section 15.

