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**Subject:** Format of Technical Specifications Rec. No. L010-S011-200-170331-00175  
**Date:** Saturday, March 31, 2012 6:58:04 PM  
**Attachments:** [.png](#)  
[L010-S011-200-170331-00175 - Format of Technical Specifications.pdf](#)

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Format of Technical Specifications

Rec. No. L010-S011-200-170331-00175

Normand,

Please refer to attached letter regarding format of technical specifications.

Regards

Ron



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Rec. No.: L010-S011-200-170331-00175

March 31, 2012

SNC-Lavalin Inc.  
272 Torbay Road  
St. John's, NL A1A 4E1

Attention: Mr. Normand Bechard

**Subject: Lower Churchill Phase 1 Development  
Agreement LC-G-002  
Engineering, Procurement and Construction Management (EPCM) Services  
Format of Technical Specifications**

Dear Normand:

**CH0006: Bulk Excavation and Associated Works**

This will confirm that the technical specification for Package CH0006: Bulk Excavation and Associated Works will be comprised of a number of sections, all of which will be included in one (1) document with one (1) document number. Each section within the technical specification will be arranged more or less in alignment with the Construction Specifications Canada / Construction Specifications Institute (CSC/CSI) "three part Section Format", as espoused in the Canadian National Master Construction Specification (NMS).

In accordance with the above, the discrete sections of the technical specification will be arranged under the following three (3) main parts:

- Part 1 – General
- Part 2 – Products
- Part 3 – Execution

There will be clauses and paragraphs under each part that will be standardized as much as practical but will, of necessity, need to suit the particular specification section.

The above has been agreed with the Component 1 Engineering Manager (Greg Snyder), and has been communicated to the Area Manager for the Bulk Excavation and Associated Works (Michel Maeyens).

In light of the above, the following documents will be need to be voided out, as they will not be used:

1. MFA-SN-CD-2000-CV-TS-0002-01: Bulk Excavation Works – Waterstops - Technical Specification
2. MFA-SN-CD-2000-CV-TS-0003-01: Bulk Excavation Works - Excavation - Technical Specification
3. MFA-SN-CD-2000-CV-TS-0004-01: Bulk Excavation Works - Dewatering - Technical Specification

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Mr. Normand Bechard  
SNC-Lavalin Inc.  
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4. MFA-SN-CD-2000-CV-TS-0005-01: Bulk Excavation Works - Foundation Preparation - Technical Specification
5. MFA-SN-CD-2000-CV-TS-0006-01: Bulk Excavation Works - Rock Consolidation and Surface Protection - Technical Specification
6. MFA-SN-CD-2000-CV-TS-0007-01: Bulk Excavation Works - Shotcrete - Technical Specification
7. MFA-SN-CD-2000-CV-TS-0008-01: Bulk Excavation Works Clearing, Grubbing and Stripping Technical Specification
8. MFA-SN-CD-2000-CV-TS-0009-01: Bulk Excavation Works - Roller Compacted Concrete - Technical Specification
9. MFA-SN-CD-2000-CV-TS-0010-01: Bulk Excavation Works - Sources of Materials - Technical Specification
10. MFA-SN-CD-2000-CV-TS-0011-01: Bulk Excavation Works - Embankment Construction - Technical Specification
11. MFA-SN-CD-2000-CV-TS-0012-01: Bulk Excavation Works - Embankment Cofferdams - Technical Specification
12. MFA-SN-CD-2000-CV-TS-0015-01: Bulk Excavation Works - Concrete Supply - Technical Specification
13. MFA-SN-CD-2000-CV-TS-0016-01: Bulk Excavation Works - Concrete, Handling, Placing and Curing - Technical Specification
14. MFA-SN-CD-2000-CV-TS-0017-01: Bulk Excavation Works - Concrete Formwork - Technical Specification
15. MFA-SN-CD-2000-CV-TS-0018-01: Bulk Excavation Works - Concrete Reinforcement - Technical Specification

**Package CH0007: Construction of Intake and Powerhouse, Spillway and Transmission Dams**

The technical specification for Package CH0007: Construction of Intake and Powerhouse, Spillway and Transmission Dams will follow the same guidelines.

**Other Packages**

Other packages will need to be examined to determine their suitability for the noted format. This examination needs to be carried out as soon as possible.

To aid in the efficient production of technical specifications, Nalcor has, in-house, a significant amount of readily available technical specifications material that follows the agreed 3-part format. Listings of some of the available information are provided in Attachments 1, 2, 3 and 4 herein.

As agreed with Greg Snyder, creation of technical specifications, particularly for CH0007, will be facilitated by utilizing information available in-house as much as possible. This will preclude the necessity to "start from scratch". Scanning can be performed to convert the paper documents to editable formats etc. to aid the process. It is recognized that the responsible SLI Area Manager and

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Mr. Normand Bechard  
SNC-Lavalin Inc.  
March 31, 2012

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competent engineers will need to craft the final specifications text to meet the LCP specific requirements.

I am available to discuss should you require any clarification related to the above.

Sincerely,



Ron Power  
General Project Manager  
Muskrat Falls & Labrador - Island Transmission Link  
RP/rp

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Mr. Normand Bechard  
SNC-Lavalin Inc.  
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## **ATTACHMENT 1**

Paradise River Hydroelectric Development – Civil Contract - List of Technical Specifications

TECHNICAL CONDITIONS  
SPECIFICATIONSTABLE OF CONTENTS

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01500	Temporary Facilities	1-15
02110	Clearing	1-2
02202	Open Cut Excavation	1-11
02250	Granular Fill	1-5
02251	Impervious Fill	1-9
02252	Filter Materials	1-4
02253	Rockfill	1-4
02271	Rip Rap	1-3
02313	Rock Tunnelling	1-13
02330	Drilling and Grouting	1-20
02340	Rock Support Systems	1-13
02401	Diversion and Unwatering	1-7
02434	Corrugated Steel Pipe	1-3
02444	Chain Link Fences and Gates	1-5
03100	Concrete Formwork	1-9
03200	Concrete Reinforcement	1-5
03300	Cast-In-Place Concrete	1-24
03361	Shotcrete	1-10
03604	Bedding Grout	1-5
04220	Concrete Unit Masonry	1-6
05120	Structural Steel	1-8
05300	Metal Decking	1-4
05410	Metal Studding	1-3
05501	Miscellaneous Metals and Embedded Parts	1-10
06100	Rough Carpentry and Millwork	1-4
07411	Preformed Metal Siding and Roofing	1-6
07510	Built Up Bituminous Roofing	1-6
08100	Metal Doors and Frames	1-4
08360	Overhead Doors	1-5
08500	Metal Windows	1-2
08710	Finish Hardware	1-5
09540	Suspended Ceilings	1-4
09900	Painting	1-11
13121	Pre-Engineered Intake Building	1-7
14301	Powerhouse Crane	1-5
15010	General Mechanical Provisions	1-12
15025	Testing, Adjustment and Balancing	1-3
15060	Pipe and Pipe Fittings	1-8
15100	Valves	1-6
15140	Pumps	1-3
15200	Noise and Vibration Control	1-4
15250	Thermal Insulation	1-16

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CONTRACT 83528-C3  
 TECHNICAL CONDITIONS - 2

ADDENDUM I

TECHNICAL CONDITIONS  
 SPECIFICATIONS

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<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
15311	Compressed Air System	1-8
15400	Plumbing Systems	1-3
15401	Water Supply System	1-3
15424	Water Heater	1-3
15450	Plumbing Fixtures and Trim	1-4
15508	Halon System	1-4
15530	Fire Protection Piping and Firehose System	1-5
15535	Portable Fire Extinguishers	1-3
15702	Ancillary Water Systems	1-5
15754	Steel Penstock Transportation	1-3
15770	Packaged Air Conditioning Units	1-4
15820	Air Distribution Equipment	1-6
15841	Low Pressure Steel Ductwork	1-6
15851	Louvres	1-3
15860	Duct Accessories	1-5
15870	Air Inlets and Outlets	1-2
15901	Instrumentation	1-5
16010	General Electric Provisions	1-8
16111	Conduit Systems	1-3
16114	Cable Trench and Tray Systems	1-3
* 16120	Control Cables	1-5
16121	Low Voltage Power Cable	1-4
16160	Power Panelboards and Associated Equipment	1-3
16450	Grounding	1-3
16500	Lighting and Receptacle Systems	1-5
16613	D.C. Systems	1-3
16641	Fire Proofing	1-2
16721	Fire Alarm System	1-3
16726	Intruder Alarm Systems	1-2
16890	Electric Heating Systems	1-3
16921	Motor Starters and Miscellaneous Panels	1-2
16950	Intake Structure Electrical Systems	1-5

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Mr. Normand Bechard  
SNC-Lavalin Inc.  
March 31, 2012

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## **ATTACHMENT 2**

Cat Arm Hydroelectric Development – Civil Contract - List of Technical Specifications



NEWFOUNDLAND AND LABRADOR HYDRO

CAT ARM DEVELOPMENT

SPECIFICATION 1602-110-03

FOREBAY STRUCTURES AND RESERVOIR DAMS 4 AND 5

TECHNICAL CONDITIONS

TABLE OF CONTENTS

	<u>Section</u>		<u>Pages</u>
	01500	Temporary Facilities and Controls	1 - 7
	02110	Clearing.....	1 - 3
	02202	Open Cut Excavation.....	1 - 15
	02241	Drilling, Pressure Grouting and Pressure Relief.....	1 - 14
	02250	Granular Fill.....	1 - 6
	02251	Impervious Fill.....	1 - 12
	02252	Filter Materials.....	1 - 7
	02253	Rockfill.....	1 - 5
03B Only	02256	Transition Material (Omitted)	-
	02271	Rip Rap.....	1 - 4
	02389	Rock Supports.....	1 - 9
	02401	Diversion and Unwatering.....	1 - 10
	02444	Chain Link Fences and Gates...	1 - 5
03B Only	03000	Asphaltic Concrete Core (Omitted).....	-
	03100	Concrete Formwork.....	1 - 8
	03200	Concrete Reinforcement.....	1 - 5

NEWFOUNDLAND AND LABRADOR HYDRO

CAT ARM DEVELOPMENT

SPECIFICATION 1602-110-03

FOREBAY STRUCTURES AND RESERVOIR DAMS 4 AND 5

TECHNICAL CONDITIONS

TABLE OF CONTENTS (Cont'd)

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03300	Cast-In-Place Concrete.....	1 - 22
05501	Miscellaneous Metals and Embedded Parts.....	1 - 8
06130	Power Canal Log Boom.....	1 - 3
13121	Pre-Engineered Enclosure Building.....	1 - 11
15001	Miscellaneous Mechanical Services.....	1 - 11
16001	Miscellaneous Electrical Services.....	1 5

Rec. No.: L010-S011-200-170331-00165

Mr. Normand Bechard  
SNC-Lavalin Inc.  
March 31, 2012

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## **ATTACHMENT 3**

Holyrood Wastewater Treatment System - List of Technical Specifications

Contract 87007-01  
Technical Conditions - 1

Technical Conditions  
Specifications

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02202	Excavation	1-5
02250	Granular Fill	1-5
02401	Unwatering	1-5
02701	Underground Piping	1-9
03100	Concrete Formwork	1-6
03200	Concrete Reinforcement	1-5
03300	Cast-In-Place Concrete	1-21
03306	Concrete Protective Coatings	1-7
03604	Bedding Grout	1-5
04220	Concrete Unit Masonry	1-7
05120	Structural Steel	1-9
05501	Miscellaneous Metals and Embedded Parts	1-7
08100	Metal Doors and Frames	1-4
08360	Overhead Doors	1-5
08710	Finish Hardware	1-4
09900	Painting	1-12
13121	Pre-Engineered Treatment Plant Building	1-10
13122	Pre-Engineered Equalization Basins Enclosure	1-9
15010	Mechanical General Requirements	1-6
15130	Piping Specialties	1-2

Rec. No.: L010-S011-200-170331-00165

Mr. Normand Bechard  
SNC-Lavalin Inc.  
March 31, 2012

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## **ATTACHMENT 4**

Other Hydroelectric Development – List of Technical Specifications

SPECIFICATION

SECTION 01010 - SUMMARY OF WORK

SPECIFICATION

SECTION 01020 - GENERAL REQUIREMENTS

SPECIFICATION

SECTION 01030 - INLAND TRANSPORTATION  
WAREHOUSING AND STORAGE, HANDLING AT SITE  
OF SUPPLIED EQUIPMENT AND MATERIALS



SPECIFICATION

SECTION 01300 - SUBMITTALS

SPECIFICATION

SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

SPECIFICATION

SECTION 01511 - POWER SUPPLY DURING CONSTRUCTION

SPECIFICATION

SECTION 01514 - CONSTRUCTION COMMUNICATIONS

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<u>SECTION NO.</u>	<u>SECTION TITLE</u>	<u>PAGES</u>
02100	CLEARING	1-2
02201	OPEN-CUT EXCAVATION	1-10
02202	IMPERVIOUS FILL	1-15
02203	TRANSITION AND ROAD FILL MATERIALS	1-7
02204	ROCKFILL	1-7
02206	RIPRAP	1-5
02230	GEOTECHNICAL INSTRUMENTATION	1-14
02240	EARTH FOUNDATION TREATMENT	1-16
02241	DRILLING AND PRESSURE GROUTING	1-9
02460	ROCK ANCHORS	1-7
02530	DIVERSION AND DEWATERING	1-10
02533	PRESSURE RELIEF DRAINS AND WELLS	1-9
02550	OUTDOOR PIPING	1-6
02612	BITUMINOUS SURFACING	1-12
02700	FENCING	1-5
02800	LANDSCAPING	1-6
02930	MARINE FENDERING	1-3
02934	FLOATING JETTY WALLS	1-3
03100	CONCRETE FORMWORK	1-6
03200	CONCRETE REINFORCEMENT	1-7
03301	CAST-IN-PLACE CONCRETE	1-25
03354	CONCRETE FLOOR FINISHES	1-6
03361	SHOTCRETE	1-8
03370	BEDDING GROUT	1-6
04220	CONCRETE UNIT MASONRY	1-10
05130	ERECTION OF POWERHOUSE SUPERSTRUCTURE STEELWORK	1-4
05300	METAL DECKING	1-5
05500	STEELWORK	1-13
05503	MISCELLANEOUS EMBEDDED PARTS	1-4

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07410	METAL SIDING AND LOUVRES	1-10
07500	ROOF SYSTEMS	1-7
07900	ARCHITECTURAL SEALANTS	1-3
08100	METAL DOORS AND FRAMES	1-4
08360	OVERHEAD DOORS	1-6
08500	WINDOWS, ALUMINUM DOORS, AND GLAZED PARTITIONS	1-6
08700	HARDWARE	1-3
09100	PLASTERING	1-4
09400	CERAMIC TILE AND TERRAZZO	1-5
09540	SUSPENDED CEILINGS	1-5
09650	RESILIENT FLOORING	1-4
09900	PAINTING	1-13
10000	BUILDING SPECIALTIES	1-4
10100	SUPPLY AND INSTALLATION OF KITCHEN EQUIPMENT	1-3
12800	FURNISHINGS	1-2
13700	MISCELLANEOUS BUILDINGS	1-9
14210	ELEVATORS AND SMALL CRANES	1-33
14320	SUPPLY OF MOBILE CRANE	1-5
15010	INSTALLATION OF MECHANICAL EQUIPMENT	1-60
15100	DEWATERING PUMPS AND PIPING	1-4
15261	COOLING WATER CHLORINATION SYSTEM	1-10
15400	PLUMBING AND PIPING	1-24
15800	VENTILATING AND AIR CONDITIONING	1-26
16350	INSTALLATION OF TRANSFORMERS	1-5
16450	STATION GROUNDING	1-5
16500	LIGHTING AND 240 VOLTS DISTRIBUTION	1-14