

**SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT**

**SCHEDULE 4**

**WORK PROGRAM AND SCHEDULE**

**TABLE OF CONTENTS**

**1 INTERPRETATION..... 1**

1.1 Definitions ..... 1

**2 SUBMITTALS ..... 1**

2.2 Submittal Summary..... 1

**3 WORK PROGRAM AND SCHEDULE ..... 1**

3.1 Work Program and Schedule..... 1

3.2 Standard for Work Program and Schedule..... 2

3.3 Approval of Work Program and Schedule ..... 3

3.4 Contractors Scheduling Capacity and Expertise ..... 4

3.5 Monthly Progress Updates ..... 4

3.6 Look-Ahead Schedules..... 4

3.7 Additional Schedule Information ..... 4

**4 PERFORMANCE OF THE WORK ..... 5**

4.1 Perform Work According to Work Program and Schedule ..... 5



**APPENDIX 4-3**  
**APPENDIX 4-4**  
**APPENDIX 4-5**  
**APPENDIX 4-6**

**APPENDIX 4-8**



**NOT USED**  
**NOT USED**  
**SITE PLAN OVERMARKED WITH PROPOSED LAYDOWN AREAS**  
**BC HYDRO TURBINE GENERATOR WBS**

**INTERFACE REQUIREMENTS**

# SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT

## SCHEDULE 4

### WORK PROGRAM AND SCHEDULE

#### 1 INTERPRETATION

##### 1.1 Definitions

In this Schedule 4 [Work Program and Schedule], in addition to the definitions set out in Schedule 1 [Definitions and Interpretation]:

“**CPM**” has the meaning set out in Section 3.5 of this Schedule 4 [Work Program and Schedule];

“**Scheduler**” has the meaning set out in Section 3.4 of this Schedule 4 [Work Program and Schedule]; and

“**Work Program and Schedule**” has the meaning set out in Section 3.1 of this Schedule 4 [Work Program and Schedule].

#### 2 SUBMITTALS

##### 2.2 Submittal Summary

For convenience of reference only, the following table is a summary of the documents and deliverables required to be submitted by the Contractor under this Schedule and the corresponding submission times. (If there is any inconsistency or omission in this table as compared to other provisions of this Schedule then the other provisions of this Schedule will govern.)

	<b>Deliverable Name</b>	<b>Due Date</b>	<b>Section Reference</b>	<b>Procedure</b>
1.	Work Program and Schedule	30 days after Effective Date	3.1	Consent Procedure
2.	Resume(s) for Scheduler(s)	30 days after Effective Date	3.4	Review Procedure

#### 3 WORK PROGRAM AND SCHEDULE

##### 3.1 Work Program and Schedule

The Contractor will, within 30 days after the Effective Date, or by such later date as Hydro’s Representative may agree to in writing, prepare and submit to Hydro’s Representative for Consent a revised and expanded work schedule (the “**Work Program and Schedule**”), satisfactory to Hydro’s Representative, acting reasonably, utilizing Primavera software:

- (a) that is a resource loaded Primavera P6 Schedule in the version specified by BC Hydro in both PDF and native xer formats;
- (b) that is based on [REDACTED];
- (c) which complies with [REDACTED];
- (d) which complies with the milestone dates set out in the Contract Documents;

- (e) that describes the complete performance of the Work;
- (f) that is prepared in accordance with Section 3.2 of this Schedule 4 [Work Program and Schedule]; and
- (g) that, at a minimum, includes:
  - (i) key milestone events, including key dates for decisions;
  - (ii) critical path(s) for the following:
    - (A) the Work as a whole;
    - (B) the Work as it relates to each individual Unit;
    - (C) each of the major elements of the Work so as to comply with Section 3.2(a) of this Schedule 4 [Work Program and Schedule]; and
    - (D) longest path for the Total Completion of the Work;
  - (iii) the level of detail, grouping and arranging of Work activities as called for in Appendix 4-6 [BC Hydro Turbine Generator WBS];
  - (iv) the key BC Hydro review points, including inspections, Hold Points, Witness Points, and any steps that will be subject to Review or to Consent; and
  - (v) the anticipated steps as called for under Appendix 6-1 [General Specifications (SPGS)] including main Design Submittals;
  - (vi) the procurement, material ordering, delivery, construction, installation, training and commissioning schedules for all material components of the Work that will be performed by Subcontractors;
  - (vii) the resource (labour and equipment) requirement for installation and commissioning at the Site including all Subcontractors;
  - (viii) a resource histogram for the total performance of the Work at the Site, showing weekly and monthly requirements;
  - (ix) Milestone Payments as provided by the Contract Documents; and
  - (x) anticipated Contractor cash flow throughout the performance of the Work.

### 3.2 Standard for Work Program and Schedule

The Work Program and Schedule will:

- (a) be prepared in sufficient detail to enable Hydro's Representative to monitor the progress of all elements and aspects of the Work, including:
  - (i) all design activities related to the Work, including the Equipment;
  - (ii) all supply and manufacture activities related to the Work, including the Equipment, wherever such supply or manufacture will occur such as at the Contractor's own facilities or a Subcontractor's facilities;

- (iii) all installation activities at the Site; and
  - (iv) all commissioning activities, at the Site or other location;
- (b) provide the required information with respect to each individual Unit; and
- (c) be prepared in accordance with Good Industry Practice for a large complex project similar to the Work involving the design, supply, installation and commissioning of equipment similar to the Equipment, which accordingly, given the nature, size and complexity of the Work:
- (i) will not include loose-end activities other than Work commencement and Total Completion;
  - (ii) will not excessively use lags;
  - (iii) will not use negative lags;
  - (iv) will not use start to finish relationships;
  - (v) will not include activities with negative float;
  - (vi) will not include unjustified constraints;
  - (vii) will not include activity durations exceeding two reporting cycles;
  - (viii) will clearly highlight any activity or information required to be performed by BC Hydro to support the Work; and
  - (ix) will demonstrate how the Contractor will achieve all of the Interface Milestone Dates and other milestone dates set out in the Contract Documents.

### 3.3 Approval of Work Program and Schedule

Upon delivery of the Work Program and Schedule under Section 3.1 of this Schedule 4 [Work Program and Schedule]:

- (a) within 30 days of receipt, Hydro's Representative will deliver to the Contractor's Representative written comments on the Work Program and Schedule, in accordance with the Consent procedure;
- (b) within 30 days of receipt of comments from Hydro's Representative as described in Section 3.3(a) of this Schedule 4 [Work Program and Schedule], the Contractor's Representative will, as may be required, revise the Work Program and Schedule and deliver it to Hydro's Representative; and
- (c) if, following the steps described in Sections 3.3(a) and 3.3(b) of this Schedule 4 [Work Program and Schedule], the parties have not agreed on the Work Program and Schedule, then:
  - (i) the steps in Sections 3.3(a) and 3.3(b) of this Schedule 4 [Work Program and Schedule] will be repeated, except that the time for review and response will be in each case 15 days, until the Work Program and Schedule is agreed by both parties, acting reasonably; and

- (ii) either party may at any time deliver a Dispute Notice to the other party to have the issues in dispute settled by the Dispute Resolution Procedure, in which event BC Hydro may give a written direction to the Contractor under Section 3.4 of Schedule 14 [Dispute Resolution Procedure].

The Work Program and Schedule, when agreed or as may be settled pursuant to Section 3.3(c)(ii) of this Schedule 4 [Work Program and Schedule] will become the Work Program and Schedule for the performance of the Work, as may be adjusted in accordance with the Contract Documents.

### 3.4 Contractors Scheduling Capacity and Expertise

The Contractor will, as part of the Work, provide a scheduler(s) (each, a “**Scheduler**”) as required to satisfy the schedule updates requirements of the Contract Documents, including this Schedule 4 [Work Program and Schedule]. The Contractor’s Scheduler(s) will have experience in the installation and commissioning of turbines, generators and ancillary equipment, and will have a minimum of five years’ scheduling experience with Primavera software. The Contractor’s Scheduler(s) will be fluent in English and will be able to effectively communicate with BC Hydro fluently in English both verbally and in writing. The Contractor will, prior to assigning a Scheduler(s) to undertake the role and responsibilities as described in this Section 3.4, submit to Hydro’s Representative the resume(s) of the proposed Scheduler(s) for Review.

### 3.5 Monthly Progress Updates

The Contractor will, within three days of the first day of each calendar month during the performance of the Work, or more frequently as reasonably required for BC Hydro to monitor the performance and progress of the Work, deliver to Hydro’s Representative a monthly progress report in accordance with Section 6.38(c) of Schedule 2 [Design and Construction Protocols] that includes an updated Work Program and Schedule that describes the actual progress of the Work current to the last day of the previous calendar month. The Contractor will develop the updates to the Work Program and Schedule using critical path methodology (“**CPM**”), in PDF format and native Primavera xer format.

The updated Work Program and Schedule as required by this Section 3.5 of this Schedule 4 [Work Program and Schedule] will be submitted for Review.

### 3.6 Look-Ahead Schedules

- (a) Design and Manufacturing Look-Ahead Schedules: The Contractor will within 14 days of commencing any Work, and thereafter every two calendar weeks until the Total Completion of the Work, deliver to Hydro’s Representative a look-ahead schedule describing the planned design and manufacturing Work that the Contractor will perform in the next-occurring two calendar month period.
- (b) Site-Work Look-Ahead Schedules: The Contractor will within seven days of commencing any Work at the Site, and thereafter every calendar week until the Total Completion of the Work, deliver to Hydro’s Representative a short term look-ahead schedule describing the activities carried out in the previous week and the planned Site Work that the Contractor will perform in the next-occurring three calendar week period.

### 3.7 Additional Schedule Information

The Contractor will, from time to time during the performance of the Work, and as part of the Work at no additional cost to BC Hydro, provide detailed additional schedule information relating to the Work as BC Hydro may reasonably require to be able to monitor the performance and progress of the Work to the standard as described in Section 3 of this Schedule 4 [Work Program and Schedule]. Such detailed additional schedule information may include providing more detailed activity sequencing to a section of

the schedule that may be of concern due to potential delay or areas of the critical path that may need to be monitored more closely and potentially on a day to day basis.

#### **4 PERFORMANCE OF THE WORK**

##### **4.1 Perform Work According to Work Program and Schedule**

The Contractor will:

- (a) commence the performance of the Work promptly following the Effective Date; and
- (b) perform the Work:
  - (i) diligently without delay or interruption to meet or precede the milestone dates set out in [REDACTED]; and
  - (ii) in material conformity with the then current Work Program and Schedule, as may be updated from time to time in accordance with this Schedule 4 [Work Program and Schedule].

**SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT**

[REDACTED]

[REDACTED]

[REDACTED]

**REDACTED**

**SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT**

[REDACTED]

[REDACTED]

[REDACTED]

**REDACTED**

**SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT**

**APPENDIX 4-3**

**NOT USED**

**SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT**

**APPENDIX 4-4**

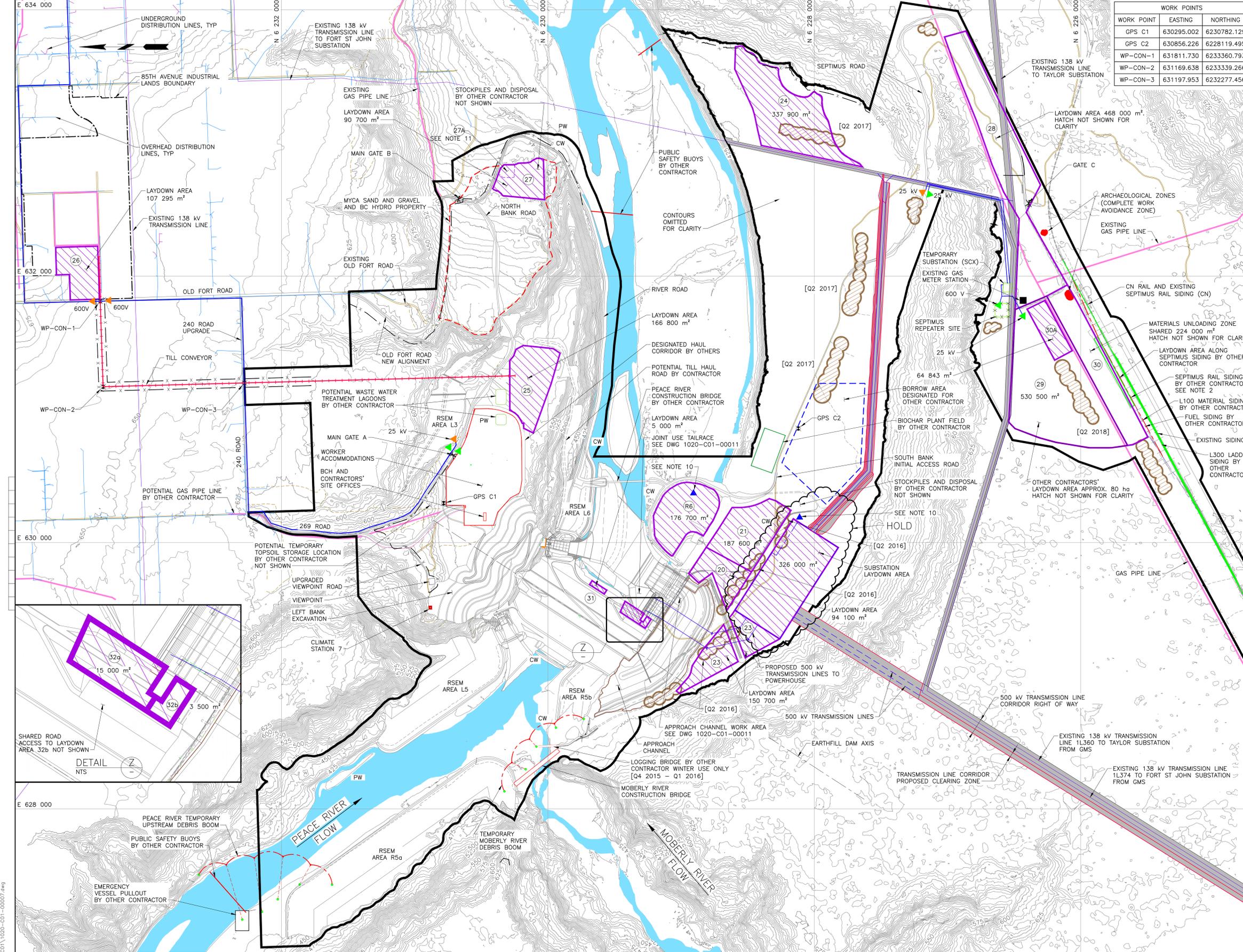
**NOT USED**

**SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT**

**APPENDIX 4-5**

**SITE PLAN OVERMARKED WITH PROPOSED LAYDOWN AREAS**

(see attached)



WORK POINT	EASTING	NORTHING
GPS C1	630295.002	6230782.129
GPS C2	630856.226	6228119.495
WP-CON-1	631811.730	6233360.793
WP-CON-2	631169.638	6233339.266
WP-CON-3	631197.953	6232277.456

LOCATION	CONTRACTOR LAYDOWN AREAS	
	CONTRACTOR	OTHER CONTRACTORS
R6	Q1 2016 - 15 JUL 2017	Q3 2017 - Q2 2023
SUBSTATION	Q1 2016 - 15 MAY 2017	JUN 2017 - Q2 2023
20	Q1 2016 - DEC 2019	JAN 2020 - Q2 2023
21	Q1 2016 - Q3 2023	
23	Q1 2016 - Q3 2018	Q4 2018 - Q2 2023
24		Q4 2017 - Q2 2023
25	Q1 2016 - Q3 2023	
26		Q2 2015 - Q4 2023
27	Q1 2016 - Q3 2023	
27A (NOTE 11)	Q1 2016 - Q2 2017	Q3 2017 - Q3 2023
28		Q4 2017 - Q2 2023
29		Q4 2017 - Q2 2023
30	Q1 2016 - 2023	Q4 2017 - Q2 2023
30A	Q1 2016 - 2023	
31		Q3 2020 - Q4 2023
32A AND 32B		Q4 2017 - Q3 2023

- GENERAL NOTES:**
- ALL DIMENSIONS AND ELEVATIONS ARE IN METRES, UNLESS NOTED OTHERWISE.
  - THE ALIGNMENT OF EXISTING SEPTIMUS RAIL SIDING, NEW SIDING, GAS PIPE LINE, GAS METER STATION, PROJECT ACCESS ROAD (PAR), TRANSMISSION LINES AND DISTRIBUTION LINES SHALL BE CONFIRMED. THE EXISTING TWO RAIL SIDINGS ARE AT THE SOUTH SIDE OF THE MAIN RAIL LINE. THE PROPOSED NEW SIDING WILL BE CONSTRUCTED AT THE NORTH SIDE OF THE MAIN RAIL LINE.
  - PROPOSED LAYDOWN AREAS OUTSIDE OF THOSE PRESENTED IN THIS DRAWING SHALL BE SUBJECT TO BC HYDRO'S APPROVAL.
  - ALL LAYDOWN AREAS ARE SUBJECT TO FURTHER REVIEW AND DATES ARE APPROXIMATE. REFER TO APPENDIX 4-1 [BC HYDRO PROJECT SCHEDULE] FOR ACTUAL DATES.
  - CONTRACTOR SHALL DETERMINE ACTUAL ROUTES FROM POWER DROPS AND LOCATIONS.
  - EXISTING GAS LINES SHALL NOT BE USED DURING CONSTRUCTION. CROSSINGS OF GAS LINES SHALL BE SUBMITTED FOR REVIEW BY HYDRO'S REPRESENTATIVE.
  - CONTRACTOR LAYDOWN AREA #30 BESIDE THE SEPTIMUS RAIL SIDING SHALL BE AVAILABLE FOR CONCURRENT USE BY OTHER CONTRACTORS.
  - ALL CONTRACTOR WORK AREAS SHOWN WILL BE MANAGED BY BC HYDRO AND WILL REQUIRE HANDOVER AGREEMENTS BETWEEN BC HYDRO AND CONTRACTORS OUTLINING HOW AREAS ARE TO BE USED, TIMING FOR USAGE AND IN WHAT CONDITION THEY ARE TO BE LEFT.
  - REFER TO TECHNICAL SPECIFICATIONS FOR CONSTRUCTION ROADS, ROAD USE AND SHARING.
  - LOCATION OF POWER SUPPLY POINT IS INDICATIVE ONLY HOWEVER IT SHALL BE LOCATED ON RSEM AREA R6 AND AT SUBSTATION LAYDOWN AREA.
  - CONTRACTOR TO PROVIDE 1 HA LAYDOWN AREA TO OTHER CONTRACTOR AT A LOCATION TO BE ESTABLISHED BY THE CONTRACTOR INSIDE LAYDOWN AREA 27.

- LEGEND:**
- LAYDOWN AREA NO
  - ▨ LAYDOWN AREA
  - ⊗ TEMPORARY WOOD DEBRIS PILES [REMOVAL DATE] (BY OTHERS) [Q# 20###]
  - ▲ POWER DROP FOR CONTRACTOR
  - ▲ POWER DROP FOR OTHER CONTRACTORS
  - ▲ POWER SUPPLY POINT FOR OTHER CONTRACTORS
  - ✕ SECURITY GATE
  - x — SECURITY FENCE
  - — — DAM SITE AREA BOUNDARY
  - — — GAS PIPE LINE
  - — — TRANSMISSION LINE
  - — — OVERHEAD DISTRIBUTION LINE
  - — — UNDERGROUND DISTRIBUTION LINE
  - — — EXISTING ROAD
  - — — EXISTING TRAIL
  - — — ROAD
  - — — TILL CONVEYOR
  - — — MYCA SAND AND GRAVEL (FORMERLY HOWE PIT) AND BC HYDRO PROPERTY
  - — — TRANSMISSION LINES RIGHT-OF-WAY
  - GMS GORDON M. SHRUM GENERATING STATION
  - CW POTENTIAL CONSTRUCTION WATER SOURCE
  - PW POTENTIAL POTABLE WATER SOURCE BY OTHER CONTRACTOR
  - RSEM RELOCATED SURPLUS EXCAVATED MATERIAL

**BC Hydro** CONTRACT NO. REF 520938  
**ISSUED FOR CONSTRUCTION**  
 BY: R. PEEVER HYDRO'S REPRESENTATIVE DATE: 12JAN2016

0 500m  
1:10000  
ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE

**Kiohm Crippen Berger** **SNC-LAVALIN**

**BC Hydro**  
**CLEAN ENERGY PROJECT - SITE C**  
**DAM SITE AREA**  
**CONSTRUCTION LAYOUT**  
**PLAN**

DSGN	M. PAULETTO
INDEP CHK	G. HANNA
DFTG	OS
DFTG CHK	PKL
INSP	
REV	B. MATHIEU
ACPT	J. NUNN A. WATSON

ORIGINAL SEALED BY  
B. MATHIEU  
15 DEC. 2015  
P.ENG.  
APEGBC

L:\21\_03\2109\_09\_CONSTRUCTION\_DESIGN\MCA\1020-C01-00007.dwg  
 CHAN, PETER  
 21/12/2015 11:52 AM

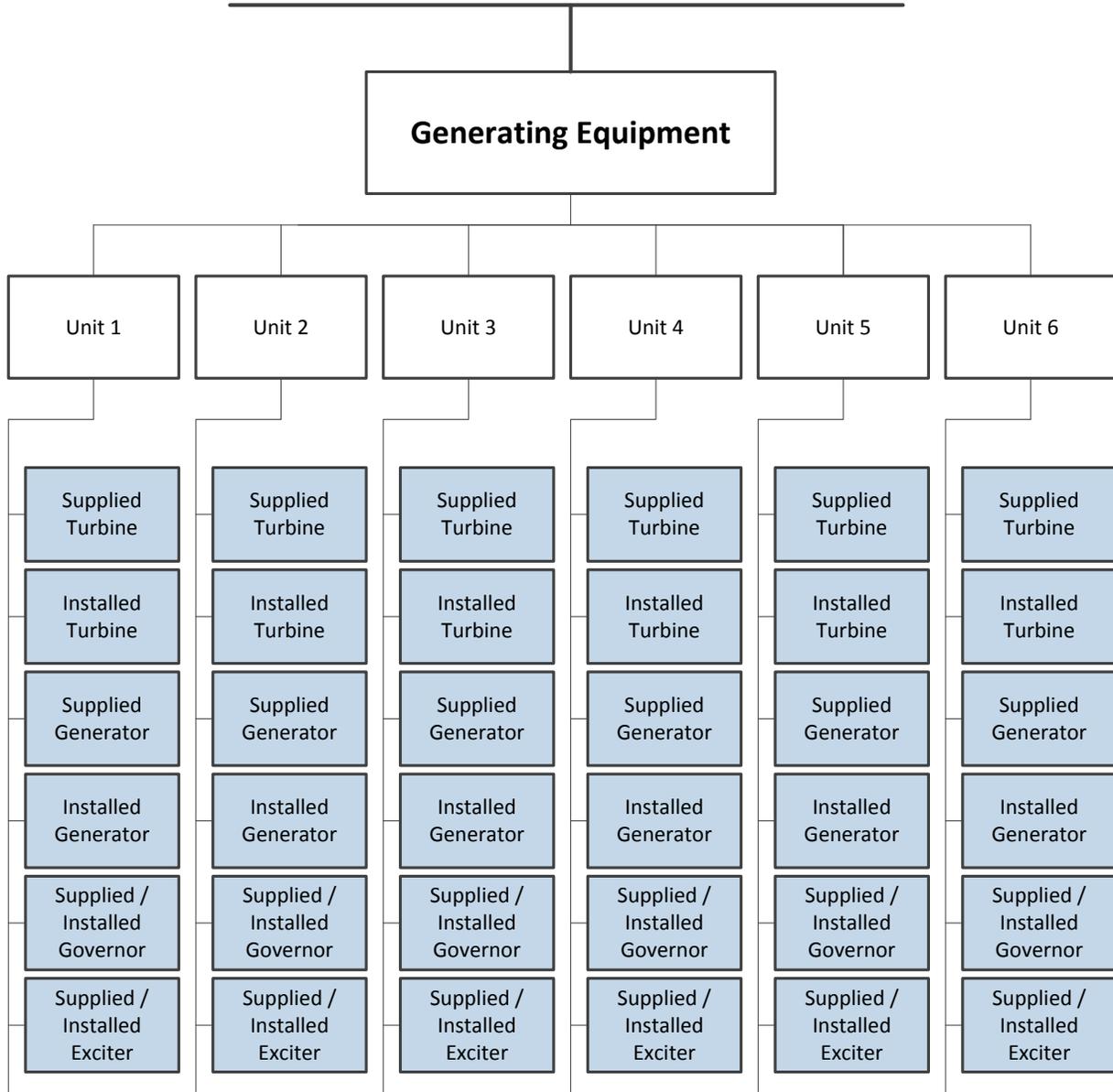
REF#	DRAWING NUMBER	TITLE	REF#	DRAWING NUMBER	TITLE	NO	REMARKS	DATE	DESIGNED	INDEP CHK	DFTG	DFTG CHK	INSP CIV	INSP STR	INSP MECH	INSP GEO	INSP ELEC	REV	ACPT	
		REFERENCE DRAWINGS			REFERENCE DRAWINGS															

NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF BC HYDRO

**SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT**

**APPENDIX 4-6**

**BC HYDRO TURBINE GENERATOR WBS  
(WORK BREAKDOWN STRUCTURE)**



**SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT**

[REDACTED]

[REDACTED]

[REDACTED]

**REDACTED**

**SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT**

**APPENDIX 4-8**

**INTERFACE REQUIREMENTS**

**TABLE OF CONTENTS**

<b>1</b>	<b>INTERPRETATION.....</b>	<b>2</b>
1.1	Definitions .....	2
<b>2</b>	<b>GENERAL.....</b>	<b>3</b>
2.1	Interface Coordination .....	3
2.2	Communication Protocol.....	3
2.3	Information Exchange Protocol.....	3
<b>3</b>	<b>INTERFACE MILESTONES .....</b>	<b>5</b>
3.1	Interface Milestones Table.....	5
3.2	Interface Descriptions .....	14
3.3	Completion of Interface Work .....	20
<b>4</b>	<b>COORDINATION OF INTERFACE WORK.....</b>	<b>20</b>
4.1	Coordination Protocol .....	20
4.2	Work Performed by Interface Contractors .....	21
4.3	Damage to Work of Others .....	21
4.4	Damage to Contractor’s Work by Interface Contractors.....	21
<b>5</b>	<b>INTERFACE DELAYS .....</b>	<b>22</b>
5.1	Liquidated Damages Rate .....	22
5.2	Delay to the Completion of a TG Interface .....	22
5.3	Delay to the Completion of a GSS/CC Interface .....	25
5.4	Single Unit Substantial Completion Date Float.....	28
5.5	Payment of Liquidated Damages Deferred .....	28
5.6	Interface Milestone Liquidated Damages Report .....	28
<b>EXHIBIT 4-8-1</b>	<b>WORK AREA INSPECTION FORM</b>	
<b>EXHIBIT 4-8-2</b>	<b>WORK AREA HANDOVER FORM</b>	

# SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT

## APPENDIX 4-8

### INTERFACE REQUIREMENTS

#### 1 INTERPRETATION

##### 1.1 Definitions

In this Appendix 4-8 [Interface Requirements], in addition to the definitions set out in Schedule 1 [Definitions and Interpretation]:

“**CC**” has the meaning set out in Section 3.1(c) of this Appendix 4-8 [Interface Requirements];

“**Completion Contractor**” has the meaning set out in Section 2.1 of this Appendix 4-8 [Interface Requirements];

“**GSS**” has the meaning set out in Section 3.1(b) of this Appendix 4-8 [Interface Requirements];

“**GSS/CC Interface**” has the meaning set out in Section 5.1(b) of this Appendix 4-8 [Interface Requirements];

“**GSS/CC Interface Completion Delay**” has the meaning set out in Section 5.3 of this Appendix 4-8 [Interface Requirements];

“**GSS Contractor**” has the meaning set out in Section 2.1 of this Appendix 4-8 [Interface Requirements];

“**Interface**” has the meaning set out in Section 2.1 of this Appendix 4-8 [Interface Requirements];

“**Interface Contractor**” has the meaning set out in Section 2.1 of this Appendix 4-8 [Interface Requirements];

“**Interface Information**” has the meaning set out in Section 2.3 of this Appendix 4-8 [Interface Requirements];

“**Interface Milestone Date**” has the meaning set out in Section 3.1 of this Appendix 4-8 [Interface Requirements];

“**Interface Milestones Table**” has the meaning set out in Section 3.1 of this Appendix 4-8 [Interface Requirements];

“**Interface Work**” has the meaning set out in Section 2.1 of this Appendix 4-8 [Interface Requirements];

“**Pit Free**” has the meaning set out in Section 3.2.19 of this Appendix 4-8 [Interface Requirements];

“**TG**” has the meaning set out in Section 3.1(a) of this Appendix 4-8 [Interface Requirements];

“**TG Interface**” has the meaning set out in Section 5.1(a) of this Appendix 4-8 [Interface Requirements];

“**TG Interface Completion Delay**” has the meaning set out in Section 5.2 of this Appendix 4-8 [Interface Requirements];

“**Work Area Inspection Form**” means the form attached at Exhibit 4-8-1 [Work Area Inspection Form] to this Appendix 4-8 [Interface Requirements]; and

“**Work Area Handover Form**” means the form attached at Exhibit 4-8-2 [Work Area Handover Form] to this Appendix 4-8 [Interface Requirements].

## **2**     **GENERAL**

### 2.1     Interface Coordination

The Contractor will, as part of the Work, confirm, coordinate and connect the Work at every point (each such point an “**Interface**”) where the Work adjoins with the work of the contractor engaged by BC Hydro under the ‘Generating Station and Spillway Contract’ (the “**GSS Contractor**”), and the contractor engaged by BC Hydro under the Powerhouse ‘Completion Contract’ (the “**Completion Contractor**”) (each of the GSS Contractor and the Completion Contractor an “**Interface Contractor**”).

The Contractor will perform the Work relating to an Interface (the “**Interface Work**”) in accordance with the Contract Documents.

### 2.2     Communication Protocol

The Contractor will observe the following protocol for the purposes of this Appendix 4-8 [Interface Requirements]:

- (a) the Contractor will direct all notices and communications required or permitted to be given to BC Hydro under this Appendix 4-8 [Interface Requirements] to Hydro’s Representative in writing in accordance with Schedule 2 [Design and Construction Protocols] and Schedule 5 [Submittals Procedure];
- (b) subject to Section 2.2(c) of this Appendix 4-8 [Interface Requirements], the Contractor may communicate directly with an Interface Contractor, about any matter related to an Interface, provided that the Contractor directs such communications to Hydro’s Representative in writing, with a copy to the Interface Contractor;
- (c) the Contractor will not, without prior written approval from Hydro’s Representative, communicate directly with an Interface Contractor regarding any matter that is connected with, or may lead to, a Claim or the making of a Claim, including a Claim for reimbursement under Section 4.3 or 4.4 of this Appendix 4-8 [Interface Requirements], or for Liquidated Damages under Section 5.2 or 5.3 of this Appendix 4-8 [Interface Requirements]; and
- (d) if the Contractor obtains approval from Hydro’s Representative in accordance with Section 2.2(c) of this Appendix 4-8 [Interface Requirements], the Contractor will in any event direct communications to Hydro’s Representative, with a copy to the Interface Contractor.

### 2.3     Information Exchange Protocol

The Contractor will observe the following protocol for exchanging information related to the Interfaces (the “**Interface Information**”) with the Interface Contractors:

- (a) the Contractor may at any time not less than 60 days prior to then current Interface Milestone Date, request from the applicable Interface Contractor in writing, with a copy to Hydro’s Representative, any Interface Information the Contractor requires from the Interface Contractor in order for the Contractor to complete the applicable Interface Work;
- (b) BC Hydro will require the Interface Contractors to provide to the Contractor, with a copy to Hydro’s Representative, the Interface Information requested by the Contractor under Section 2.3(a) of this Appendix 4-8 [Interface Requirements] within 14 days of receipt of the request;

- (c) the Contractor may, within 14 days of receiving any Interface Information from an Interface Contractor as requested under Section 2.3(a) of this Appendix 4-8 [Interface Requirements], provide comments or questions on that Interface Information to the Interface Contractor in writing, with a copy to Hydro's Representative;
- (d) if the Contractor provides comments or questions on Interface Information as permitted under Section 2.3(c) of this Appendix 4-8 [Interface Requirements], the Contractor will promptly, cooperatively and in good faith coordinate with the Interface Contractor with the objective of resolving those comments or questions within 14 days of providing those comments or questions, and will provide a record of any such resolution to Hydro's Representative, in writing;
- (e) if the Contractor does not issue any comments or questions about a particular Interface as permitted under Section 2.3(c) of this Appendix 4-8 [Interface Requirements], the Contractor will be deemed to have accepted the Interface Information provided by the Interface Contractor with respect to that Interface;
- (f) an Interface Contractor may at any time not less than 60 days prior to then current Interface Milestone Date, request from the Contractor in writing, with a copy to Hydro's Representative, any Interface Information the Interface Contractor requires from the Contractor in order for the Interface Contractor to complete its work in connection with the applicable Interface;
- (g) the Contractor will, within 14 days of receiving a request for Interface Information under Section 2.3(f) of this Appendix 4-8 [Interface Requirements], provide to the Interface Contractor in writing, with a copy to Hydro's Representative, the Interface Information requested;
- (h) the Interface Contractor may, after receiving Interface Information from the Contractor as requested under Section 2.3(f) of this Appendix 4-8 [Interface Requirements], provide comments or questions on that Interface Information to the Contractor in writing, with a copy to Hydro's Representative;
- (i) if the Contractor receives comments or questions on Interface Information from an Interface Contractor as permitted under Section 2.3(h):
  - (i) the Contractor will promptly, cooperatively and in good faith coordinate with the Interface Contractor with the objective of resolving those comments or questions within 14 days of the receipt of such comments or questions; and
  - (ii) BC Hydro will require the Interface Contractors, under its contract with each of them, to provide a record of any such resolution to Hydro's Representative, in writing;
- (j) if an Interface Contractor does not issue any comments or questions about a particular Interface as permitted under Section 2.3(h) of this Appendix 4-8 [Interface Requirements] within 14 days after receiving Interface Information from the Contractor, the Contractor can proceed as set out in the Interface Information; and
- (k) if the Contractor and an Interface Contractor fail to resolve any comments or questions on the Interface Information within the time prescribed under Section 2.3(d) or Section 2.3(i)(i), as the case may be, BC Hydro may initiate a process to facilitate agreement, and if that process is deemed to be unsuccessful by BC Hydro, BC Hydro may issue instructions to the Contractor and the Interface Contractor regarding the Interface Information at issue.

### **3 INTERFACE MILESTONES**

#### **3.1 Interface Milestones Table**

Table 3.1 [Interface Milestones Table] (the “**Interface Milestones Table**”) contains a summary of the Interfaces, as more fully described in Section 3.2 of this Appendix 4-8 [Interface Requirements], and the dates for the completion of the Interfaces (each an “**Interface Milestone Date**”), which dates may be adjusted in accordance with the Contract Documents.

In the Interface Milestones Table and under Section 3.2 of this Appendix 4-8 [Interface Requirements]:

- (a) “**TG**” means the Contractor;
- (b) “**GSS**” means the GSS Contractor; and
- (c) “**CC**” means the Completion Contractor.

Table 3.1 [Interface Milestones Table]:

Phase	Interface Number	Applicable Unit	Interface Description	Affected Party	Responsible Party	Interface Milestone Date (██████)	Liquidated Damages (\$/day)
Design	GSS-TG-D-01	All	Concrete Placement Plan and Schedule of Embedments and Blockouts	TG	GSS	██████	██████
Design	GSS-TG-D-02	All	Spiral Case Hydrostatic Test and Embedment Procedures	TG	GSS	██████	██████
Infrastructure	GSS-TG-I-01	N/A	Storage Warehouse Ready	TG	GSS	██████	██████
Infrastructure	GSS-TG-I-02	N/A	Electric Power for TG Site Office and Lunchroom	TG	GSS	██████	██████
Infrastructure	GSS-TG-I-04	N/A	Supply of Untreated Water	TG	GSS	██████	██████
Infrastructure	GSS-TG-I-05	N/A	Powerhouse Construction Electric Power	TG	GSS	██████	██████
Infrastructure	GSS-TG-I-06	N/A	Powerhouse Construction HVAC system	TG	GSS	██████	██████
Infrastructure	GSS-TG-I-07	N/A	West Service Bay Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-01	1	Turbine 1st Stage Concrete Components at Site	GSS	TG	██████	██████
Construction	GSS-TG-C-01	1	Draft Tube 1st Stage Concrete Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-02	1	Unit Bay Superstructure Complete and Bridge Crane Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-02	1	Draft Tube Elbow and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-03	1	Draft Tube Elbow 2nd Stage Concrete Complete	TG	GSS	██████	██████
Construction	TG-GSS-C-03	1	Draft Tube Cone and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-04	1	Draft Tube Cone 2nd Stage Concrete Complete and Spiral Case Foundation Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-04	1	Stay Ring and Spiral Case Assembled and Handover of Generator Embedded Parts	GSS	TG	██████	██████
Construction	GSS-TG-C-05	1	Spiral Case Hydrostatic Pressure Test Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-06	1	Spiral Case Embedded and Generator 2nd Stage Concrete Complete; Pit Free	TG	GSS	██████	██████
Construction	GSS-TG-C-07	1	Spiral Case Drained	TG	GSS	██████	██████
Construction	GSS-TG-C-08	1	Downstream End of Penstock Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-05	1	Spiral Case Spool Piece, Flexible Coupling and Penstock Closure Piece in Position; Ready for Exciter Floor Installation	GSS	TG	██████	██████
Construction	GSS-TG-C-09	1	Exciter and Transformer Floors Ready	TG	GSS	██████	██████
Construction	GSS-TG-C-10	1	Powerhouse Bridge Cranes Ready for Rotor Lift	TG	GSS	██████	██████
Construction	TG-CC-C-01	1	Unit Cooling Water System Ready for Connection to the Powerhouse Raw Water Header	CC	TG	██████	██████
Construction	TG-CC-C-02	1	Unit Cooling Water System Ready for Connection to the Unit Cooling Water Discharge Header	CC	TG	██████	██████
Construction	CC-TG-C-01	1	Powerhouse Raw Water Header Connected to the Unit Cooling Water System	TG	CC	██████	██████
Construction	CC-TG-C-02	1	Unit Cooling Water Discharge Header Connected to the Unit Cooling Water System	TG	CC	██████	██████
Construction	TG-CC-C-03	1	Unit Heat Recovery Supply and Return Pipes Ready for Connection to HVAC System	CC	TG	██████	██████
Construction	CC-TG-C-03	1	Unit Heat Recovery Supply and Return Pipes Connected to HVAC System	TG	CC	██████	██████
Construction	TG-CC-C-04	1	Draft Tube Water Depression System Ready for Connection to the Station Air System	CC	TG	██████	██████

Construction	CC-TG-C-04	1	Draft Tube Water Depression System Connected to Station Air System	TG	CC	██████	██████
Construction	TG-CC-C-05	1	Generator Brake Air Supply Ready for Connection to the Station Air System	CC	TG	██████	██████
Construction	CC-TG-C-05	1	Generator Brake Air Supply Connected to the Station Air System	TG	CC	██████	██████
Construction	TG-CC-C-06	1	Shaft-line Air Admission System Ready for Connection to the Shaft-Line Air Admission Inlet Pipe	CC	TG	██████	██████
Construction	CC-TG-C-06	1	Shaft-Line Air Admission Inlet Pipe Connected to the Shaft-Line Air Admission System	TG	CC	██████	██████
Construction	TG-CC-C-07	1	Generator Deluge System Ready for Connection to Deluge Supply/Drain Pipes	CC	TG	██████	██████
Construction	CC-TG-C-07	1	Generator Deluge System Connected to Deluge Supply/Drain Pipes	TG	CC	██████	██████
Construction	TG-CC-C-08	1	Installation of the Turbine Terminal Panel	CC	TG	██████	██████
Construction	CC-TG-C-08	1	Terminations in the Turbine Terminal Panel	TG	CC	██████	██████
Construction	CC-TG-C-09	1	Connection Between the Generator Phase Terminals and the Isophase Bus	TG	CC	██████	██████
Construction	TG-CC-C-09	1	Installation of the Generator Terminal Cabinet, Generator RTD Terminal Panel, and Generator Fire Protection Terminal Panel	CC	TG	██████	██████
Construction	CC-TG-C-10	1	Connection Between the Generator Neutral Terminals and the Neutral Grounding Cabinet	TG	CC	██████	██████
Construction	CC-TG-C-11	1	Terminations in the Generator Terminal Cabinet and Panels	TG	CC	██████	██████
Construction	TG-CC-C-10	1	Installation of the Governor Control Cabinet, HPU, HPOIS and Air System	CC	TG	██████	██████
Construction	CC-TG-C-12	1	Terminations in the Governor Control Cabinet, HPOIS and HPU	TG	CC	██████	██████
Construction	TG-CC-C-11	1	Installation of the Exciter and Exciter Transformer Cubicles	CC	TG	██████	██████
Construction	CC-TG-C-13	1	Terminations in the Exciter and Exciter Transformer Cubicles	TG	CC	██████	██████
Construction	CC-TG-C-14	1	Connection of the Isophase Bus to the Exciter Transformer	TG	CC	██████	██████
Construction	CC-TG-C-15	1	Unit Grounding Installed	TG	CC	██████	██████
Construction	TG-GSS-C-01	2	Turbine 1st Stage Concrete Components at Site	GSS	TG	██████	██████
Construction	GSS-TG-C-01	2	Draft Tube 1st Stage Concrete Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-02	2	Unit Bay Superstructure Complete and Bridge Crane Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-02	2	Draft Tube Elbow and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-03	2	Draft Tube Elbow 2nd Stage Concrete Complete	TG	GSS	██████	██████
Construction	TG-GSS-C-03	2	Draft Tube Cone and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-04	2	Draft Tube Cone 2nd Stage Concrete Complete and Spiral Case Foundation Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-04	2	Stay Ring and Spiral Case Assembled and Handover of Generator Embedded Parts	GSS	TG	██████	██████
Construction	GSS-TG-C-05	2	Spiral Case Hydrostatic Pressure Test Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-06	2	Spiral Case Embedded and Generator 2nd Stage Concrete Complete; Pit Free	TG	GSS	██████	██████
Construction	GSS-TG-C-07	2	Spiral Case Drained	TG	GSS	██████	██████
Construction	GSS-TG-C-08	2	Downstream End of Penstock Ready	TG	GSS	██████	██████

## Supply and Installation of Turbines and Generators – Appendix 4-8 [Interface Requirements]

Construction	TG-GSS-C-05	2	Spiral Case Spool Piece, Flexible Coupling and Penstock Closure Piece in Position; Ready for Exciter Floor Installation	GSS	TG	██████	██████
Construction	GSS-TG-C-09	2	Exciter and Transformer Floors Ready	TG	GSS	██████	██████
Construction	GSS-TG-C-10	2	Powerhouse Bridge Cranes Ready for Rotor Lift	TG	GSS	██████	██████
Construction	TG-CC-C-01	2	Unit Cooling Water System Ready for Connection to the Powerhouse Raw Water Header	CC	TG	██████	██████
Construction	TG-CC-C-02	2	Unit Cooling Water System Ready for Connection to the Unit Cooling Water Discharge Header	CC	TG	██████	██████
Construction	CC-TG-C-01	2	Powerhouse Raw Water Header Connected to the Unit Cooling Water System	TG	CC	██████	██████
Construction	CC-TG-C-02	2	Unit Cooling Water Discharge Header Connected to the Unit Cooling Water System	TG	CC	██████	██████
Construction	TG-CC-C-03	2	Unit Heat Recovery Supply and Return Pipes Ready for Connection to HVAC System	CC	TG	██████	██████
Construction	CC-TG-C-03	2	Unit Heat Recovery Supply and Return Pipes Connected to HVAC System	TG	CC	██████	██████
Construction	TG-CC-C-04	2	Draft Tube Water Depression System Ready for Connection to the Station Air System	CC	TG	██████	██████
Construction	CC-TG-C-04	2	Draft Tube Water Depression System Connected to Station Air System	TG	CC	██████	██████
Construction	TG-CC-C-05	2	Generator Brake Air Supply Ready for Connection to the Station Air System	CC	TG	██████	██████
Construction	CC-TG-C-05	2	Generator Brake Air Supply Connected to the Station Air System	TG	CC	██████	██████
Construction	TG-CC-C-06	2	Shaft-line Air Admission System Ready for Connection to the Shaft-Line Air Admission Inlet Pipe	CC	TG	██████	██████
Construction	CC-TG-C-06	2	Shaft-Line Air Admission Inlet Pipe Connected to the Shaft-Line Air Admission System	TG	CC	██████	██████
Construction	TG-CC-C-07	2	Generator Deluge System Ready for Connection to Deluge Supply/Drain Pipes	CC	TG	██████	██████
Construction	CC-TG-C-07	2	Generator Deluge System Connected to Deluge Supply/Drain Pipes	TG	CC	██████	██████
Construction	TG-CC-C-08	2	Installation of the Turbine Terminal Panel	CC	TG	██████	██████
Construction	CC-TG-C-08	2	Terminations in the Turbine Terminal Panel	TG	CC	██████	██████
Construction	CC-TG-C-09	2	Connection Between the Generator Phase Terminals and the Isophase Bus	TG	CC	██████	██████
Construction	TG-CC-C-09	2	Installation of the Generator Terminal Cabinet, Generator RTD Terminal Panel, and Generator Fire Protection Terminal Panel	CC	TG	██████	██████
Construction	CC-TG-C-10	2	Connection Between the Generator Neutral Terminals and the Neutral Grounding Cabinet	TG	CC	██████	██████
Construction	CC-TG-C-11	2	Terminations in the Generator Terminal Cabinet and Panels	TG	CC	██████	██████
Construction	TG-CC-C-10	2	Installation of the Governor Control Cabinet, HPU, HPOIS and Air System	CC	TG	██████	██████
Construction	CC-TG-C-12	2	Terminations in the Governor Control Cabinet, HPOIS and HPU	TG	CC	██████	██████
Construction	TG-CC-C-11	2	Installation of the Exciter and Exciter Transformer Cubicles	CC	TG	██████	██████
Construction	CC-TG-C-13	2	Terminations in the Exciter and Exciter Transformer Cubicles	TG	CC	██████	██████

## Supply and Installation of Turbines and Generators – Appendix 4-8 [Interface Requirements]

Construction	CC-TG-C-14	2	Connection of the Isophase Bus to the Exciter Transformer	TG	CC	██████	██
Construction	CC-TG-C-15	2	Unit Grounding Installed	TG	CC	██████	██
Construction	TG-GSS-C-01	3	Turbine 1st Stage Concrete Components at Site	GSS	TG	██████	██████
Construction	GSS-TG-C-01	3	Draft Tube 1st Stage Concrete Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-02	3	Unit Bay Superstructure Complete and Bridge Crane Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-02	3	Draft Tube Elbow and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-03	3	Draft Tube Elbow 2nd Stage Concrete Complete	TG	GSS	██████	██████
Construction	TG-GSS-C-03	3	Draft Tube Cone and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-04	3	Draft Tube Cone 2nd Stage Concrete Complete and Spiral Case Foundation Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-04	3	Stay Ring and Spiral Case Assembled and Handover of Generator Embedded Parts	GSS	TG	██████	██████
Construction	GSS-TG-C-05	3	Spiral Case Hydrostatic Pressure Test Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-06	3	Spiral Case Embedded and Generator 2nd Stage Concrete Complete; Pit Free	TG	GSS	██████	██████
Construction	GSS-TG-C-07	3	Spiral Case Drained	TG	GSS	██████	██████
Construction	GSS-TG-C-08	3	Downstream End of Penstock Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-05	3	Spiral Case Spool Piece, Flexible Coupling and Penstock Closure Piece in Position; Ready for Exciter Floor Installation	GSS	TG	██████	██████
Construction	GSS-TG-C-09	3	Exciter and Transformer Floors Ready	TG	GSS	██████	██████
Construction	GSS-TG-C-10	3	Powerhouse Bridge Cranes Ready for Rotor Lift	TG	GSS	██████	██████
Construction	TG-CC-C-01	3	Unit Cooling Water System Ready for Connection to the Powerhouse Raw Water Header	CC	TG	██████	██
Construction	TG-CC-C-02	3	Unit Cooling Water System Ready for Connection to the Unit Cooling Water Discharge Header	CC	TG	██████	██
Construction	CC-TG-C-01	3	Powerhouse Raw Water Header Connected to the Unit Cooling Water System	TG	CC	██████	██
Construction	CC-TG-C-02	3	Unit Cooling Water Discharge Header Connected to the Unit Cooling Water System	TG	CC	██████	██
Construction	TG-CC-C-03	3	Unit Heat Recovery Supply and Return Pipes Ready for Connection to HVAC System	CC	TG	██████	██
Construction	CC-TG-C-03	3	Unit Heat Recovery Supply and Return Pipes Connected to HVAC System	TG	CC	██████	██
Construction	TG-CC-C-04	3	Draft Tube Water Depression System Ready for Connection to the Station Air System	CC	TG	██████	██
Construction	CC-TG-C-04	3	Draft Tube Water Depression System Connected to Station Air System	TG	CC	██████	██████
Construction	TG-CC-C-05	3	Generator Brake Air Supply Ready for Connection to the Station Air System	CC	TG	██████	██
Construction	CC-TG-C-05	3	Generator Brake Air Supply Connected to the Station Air System	TG	CC	██████	██
Construction	TG-CC-C-06	3	Shaft-line Air Admission System Ready for Connection to the Shaft-Line Air Admission Inlet Pipe	CC	TG	██████	██
Construction	CC-TG-C-06	3	Shaft-Line Air Admission Inlet Pipe Connected to the Shaft-Line Air Admission System	TG	CC	██████	██
Construction	TG-CC-C-07	3	Generator Deluge System Ready for Connection to Deluge Supply/Drain Pipes	CC	TG	██████	██

## Supply and Installation of Turbines and Generators – Appendix 4-8 [Interface Requirements]

Construction	CC-TG-C07	3	Generator Deluge System Connected to Deluge Supply/Drain Pipes	TG	CC	██████	██████
Construction	TG-CC-C-08	3	Installation of the Turbine Terminal Panel	CC	TG	██████	██████
Construction	CC-TG-C-08	3	Terminations in the Turbine Terminal Panel	TG	CC	██████	██████
Construction	CC-TG-C-09	3	Connection Between the Generator Phase Terminals and the Isophase Bus	TG	CC	██████	██████
Construction	TG-CC-C-09	3	Installation of the Generator Terminal Cabinet, Generator RTD Terminal Panel, and Generator Fire Protection Terminal Panel	CC	TG	██████	██████
Construction	CC-TG-C-10	3	Connection Between the Generator Neutral Terminals and the Neutral Grounding Cabinet	TG	CC	██████	██████
Construction	CC-TG-C-11	3	Terminations in the Generator Terminal Cabinet and Panels	TG	CC	██████	██████
Construction	TG-CC-C-10	3	Installation of the Governor Control Cabinet, HPU, HPOIS and Air System	CC	TG	██████	██████
Construction	CC-TG-C-12	3	Terminations in the Governor Control Cabinet, HPOIS and HPU	TG	CC	██████	██████
Construction	TG-CC-C-11	3	Installation of the Exciter and Exciter Transformer Cubicles	CC	TG	██████	██████
Construction	CC-TG-C-13	3	Terminations in the Exciter and Exciter Transformer Cubicles	TG	CC	██████	██████
Construction	CC-TG-C-14	3	Connection of the Isophase Bus to the Exciter Transformer	TG	CC	██████	██████
Construction	CC-TG-C-15	3	Unit Grounding Installed	TG	CC	██████	██████
Construction	TG-GSS-C-01	4	Turbine 1st Stage Concrete Components at Site	GSS	TG	██████	██████
Construction	GSS-TG-C-01	4	Draft Tube 1st Stage Concrete Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-02	4	Unit Bay Superstructure Complete and Bridge Crane Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-02	4	Draft Tube Elbow and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-03	4	Draft Tube Elbow 2nd Stage Concrete Complete	TG	GSS	██████	██████
Construction	TG-GSS-C-03	4	Draft Tube Cone and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-04	4	Draft Tube Cone 2nd Stage Concrete Complete and Spiral Case Foundation Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-04	4	Stay Ring and Spiral Case Assembled and Handover of Generator Embedded Parts	GSS	TG	██████	██████
Construction	GSS-TG-C-05	4	Spiral Case Hydrostatic Pressure Test Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-06	4	Spiral Case Embedded and Generator 2nd Stage Concrete Complete; Pit Free	TG	GSS	██████	██████
Construction	GSS-TG-C-07	4	Spiral Case Drained	TG	GSS	██████	██████
Construction	GSS-TG-C-08	4	Downstream End of Penstock Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-05	4	Spiral Case Spool Piece, Flexible Coupling and Penstock Closure Piece in Position; Ready for Exciter Floor Installation	GSS	TG	██████	██████
Construction	GSS-TG-C-09	4	Exciter and Transformer Floors Ready	TG	GSS	██████	██████
Construction	GSS-TG-C-10	4	Powerhouse Bridge Cranes Ready for Rotor Lift	TG	GSS	██████	██████
Construction	TG-CC-C-01	4	Unit Cooling Water System Ready for Connection to the Powerhouse Raw Water Header	CC	TG	██████	██████
Construction	TG-CC-C-02	4	Unit Cooling Water System Ready for Connection to the Unit Cooling Water Discharge Header	CC	TG	██████	██████
Construction	CC-TG-C-01	4	Powerhouse Raw Water Header Connected to the Unit Cooling Water System	TG	CC	██████	██████

## Supply and Installation of Turbines and Generators – Appendix 4-8 [Interface Requirements]

Construction	CC-TG-C-02	4	Unit Cooling Water Discharge Header Connected to the Unit Cooling Water System	TG	CC	██████	██
Construction	TG-CC-C-03	4	Unit Heat Recovery Supply and Return Pipes Ready for Connection to HVAC System	CC	TG	██████	██
Construction	CC-TG-C-03	4	Unit Heat Recovery Supply and Return Pipes Connected to HVAC System	TG	CC	██████	██
Construction	TG-CC-C-04	4	Draft Tube Water Depression System Ready for Connection to the Station Air System	CC	TG	██████	██
Construction	CC-TG-C-04	4	Draft Tube Water Depression System Connected to Station Air System	TG	CC	██████	██
Construction	TG-CC-C-05	4	Generator Brake Air Supply Ready for Connection to the Station Air System	CC	TG	██████	██
Construction	CC-TG-C-05	4	Generator Brake Air Supply Connected to the Station Air System	TG	CC	██████	██
Construction	TG-CC-C-06	4	Shaft-line Air Admission System Ready for Connection to the Shaft-Line Air Admission Inlet Pipe	CC	TG	██████	██
Construction	CC-TG-C-06	4	Shaft-Line Air Admission Inlet Pipe Connected to the Shaft-Line Air Admission System	TG	CC	██████	██
Construction	TG-CC-C-07	4	Generator Deluge System Ready for Connection to Deluge Supply/Drain Pipes	CC	TG	██████	██
Construction	CC-TG-C-07	4	Generator Deluge System Connected to Deluge Supply/Drain Pipes	TG	CC	██████	██
Construction	TG-CC-C-08	4	Installation of the Turbine Terminal Panel	CC	TG	██████	██
Construction	CC-TG-C-08	4	Terminations in the Turbine Terminal Panel	TG	CC	██████	██
Construction	CC-TG-C-09	4	Connection Between the Generator Phase Terminals and the Isophase Bus	TG	CC	██████	██
Construction	TG-CC-C-09	4	Installation of the Generator Terminal Cabinet, Generator RTD Terminal Panel, and Generator Fire Protection Terminal Panel	CC	TG	██████	██
Construction	CC-TG-C-10	4	Connection Between the Generator Neutral Terminals and the Neutral Grounding Cabinet	TG	CC	██████	██
Construction	CC-TG-C-11	4	Terminations in the Generator Terminal Cabinet and Panels	TG	CC	██████	██
Construction	TG-CC-C-10	4	Installation of the Governor Control Cabinet, HPU, HPOIS and Air System	CC	TG	██████	██
Construction	CC-TG-C-12	4	Terminations in the Governor Control Cabinet, HPOIS and HPU	TG	CC	██████	██
Construction	TG-CC-C-11	4	Installation of the Exciter and Exciter Transformer Cubicles	CC	TG	██████	██
Construction	CC-TG-C-13	4	Terminations in the Exciter and Exciter Transformer Cubicles	TG	CC	██████	██
Construction	CC-TG-C-14	4	Connection of the Isophase Bus to the Exciter Transformer	TG	CC	██████	██
Construction	CC-TG-C-15	4	Unit Grounding Installed	TG	CC	██████	██
Construction	TG-GSS-C-01	5	Turbine 1st Stage Concrete Components at Site	GSS	TG	██████	██████
Construction	GSS-TG-C-01	5	Draft Tube 1st Stage Concrete Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-02	5	Unit Bay Superstructure Complete and Bridge Crane Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-02	5	Draft Tube Elbow and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-03	5	Draft Tube Elbow 2nd Stage Concrete Complete	TG	GSS	██████	██████
Construction	TG-GSS-C-03	5	Draft Tube Cone and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-04	5	Draft Tube Cone 2nd Stage Concrete Complete and Spiral Case Foundation Ready	TG	GSS	██████	██████

## Supply and Installation of Turbines and Generators – Appendix 4-8 [Interface Requirements]

Construction	TG-GSS-C-04	5	Stay Ring and Spiral Case Assembled and Handover of Generator Embedded Parts	GSS	TG	██████	██████
Construction	GSS-TG-C-05	5	Spiral Case Hydrostatic Pressure Test Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-06	5	Spiral Case Embedded and Generator 2nd Stage Concrete Complete; Pit Free	TG	GSS	██████	██████
Construction	GSS-TG-C-07	5	Spiral Case Drained	TG	GSS	██████	██████
Construction	GSS-TG-C-08	5	Downstream End of Penstock Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-05	5	Spiral Case Spool Piece, Flexible Coupling and Penstock Closure Piece in Position; Ready for Exciter Floor Installation	GSS	TG	██████	██████
Construction	GSS-TG-C-09	5	Exciter and Transformer Floors Ready	TG	GSS	██████	██████
Construction	GSS-TG-C-10	5	Powerhouse Bridge Cranes Ready for Rotor Lift	TG	GSS	██████	██████
Construction	TG-CC-C-01	5	Unit Cooling Water System Ready for Connection to the Powerhouse Raw Water Header	CC	TG	██████	██████
Construction	TG-CC-C-02	5	Unit Cooling Water System Ready for Connection to the Unit Cooling Water Discharge Header	CC	TG	██████	██████
Construction	CC-TG-C-01	5	Powerhouse Raw Water Header Connected to the Unit Cooling Water System	TG	CC	██████	██████
Construction	CC-TG-C-02	5	Unit Cooling Water Discharge Header Connected to the Unit Cooling Water System	TG	CC	██████	██████
Construction	TG-CC-C-03	5	Unit Heat Recovery Supply and Return Pipes Ready for Connection to HVAC System	CC	TG	██████	██████
Construction	CC-TG-C-03	5	Unit Heat Recovery Supply and Return Pipes Connected to HVAC System	TG	CC	██████	██████
Construction	TG-CC-C-04	5	Draft Tube Water Depression System Ready for Connection to the Station Air System	CC	TG	██████	██████
Construction	CC-TG-C-04	5	Draft Tube Water Depression System Connected to Station Air System	TG	CC	██████	██████
Construction	TG-CC-C-05	5	Generator Brake Air Supply Ready for Connection to the Station Air System	CC	TG	██████	██████
Construction	CC-TG-C-05	5	Generator Brake Air Supply Connected to the Station Air System	TG	CC	██████	██████
Construction	TG-CC-C-06	5	Shaft-line Air Admission System Ready for Connection to the Shaft-Line Air Admission Inlet Pipe	CC	TG	██████	██████
Construction	CC-TG-C-06	5	Shaft-Line Air Admission Inlet Pipe Connected to the Shaft-Line Air Admission System	TG	CC	██████	██████
Construction	TG-CC-C-07	5	Generator Deluge System Ready for Connection to Deluge Supply/Drain Pipes	CC	TG	██████	██████
Construction	CC-TG-C-07	5	Generator Deluge System Connected to Deluge Supply/Drain Pipes	TG	CC	██████	██████
Construction	TG-CC-C-08	5	Installation of the Turbine Terminal Panel	CC	TG	██████	██████
Construction	CC-TG-C-08	5	Terminations in the Turbine Terminal Panel	TG	CC	██████	██████
Construction	CC-TG-C-09	5	Connection Between the Generator Phase Terminals and the Isophase Bus	TG	CC	██████	██████
Construction	TG-CC-C-09	5	Installation of the Generator Terminal Cabinet, Generator RTD Terminal Panel, and Generator Fire Protection Terminal Panel	CC	TG	██████	██████
Construction	CC-TG-C-10	5	Connection Between the Generator Neutral Terminals and the Neutral Grounding Cabinet	TG	CC	██████	██████
Construction	CC-TG-C-11	5	Terminations in the Generator Terminal Cabinet and Panels	TG	CC	██████	██████

## Supply and Installation of Turbines and Generators – Appendix 4-8 [Interface Requirements]

Construction	TG-CC-C-10	5	Installation of the Governor Control Cabinet, HPU, HPOIS and Air System	CC	TG	██████	██
Construction	CC-TG-C-12	5	Terminations in the Governor Control Cabinet, HPOIS and HPU	TG	CC	██████	████
Construction	TG-CC-C-11	5	Installation of the Exciter and Exciter Transformer Cubicles	CC	TG	██████	██
Construction	CC-TG-C-13	5	Terminations in the Exciter and Exciter Transformer Cubicles	TG	CC	██████	████
Construction	CC-TG-C-14	5	Connection of the Isophase Bus to the Exciter Transformer	TG	CC	██████	██
Construction	CC-TG-C-15	5	Unit Grounding Installed	TG	CC	██████	██
Construction	TG-GSS-C-01	6	Turbine 1st Stage Concrete Components at Site	GSS	TG	██████	██████
Construction	GSS-TG-C-01	6	Draft Tube 1st Stage Concrete Complete	TG	GSS	██████	██████
Construction	GSS-TG-C-02	6	Unit Bay Superstructure Complete and Bridge Crane Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-02	6	Draft Tube Elbow and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-03	6	Draft Tube Elbow 2nd Stage Concrete Complete	TG	GSS	██████	██████
Construction	TG-GSS-C-03	6	Draft Tube Cone and Anchors Installed	GSS	TG	██████	██████
Construction	GSS-TG-C-04	6	Draft Tube Cone 2nd Stage Concrete Complete and Spiral Case Foundation Ready	TG	GSS	██████	██████
Construction	TG-GSS-C-04	6	Stay Ring and Spiral Case Assembled and Handover of Generator Embedded Parts	GSS	TG	██████	██████
Construction	GSS-TG-C-05	6	Spiral Case Hydrostatic Pressure Test Complete	TG	GSS	██████	████
Construction	GSS-TG-C-06	6	Spiral Case Embedded and Generator 2nd Stage Concrete Complete; Pit Free	TG	GSS	██████	██████
Construction	GSS-TG-C-07	6	Spiral Case Drained	TG	GSS	██████	██████
Construction	GSS-TG-C-08	6	Downstream End of Penstock Ready	TG	GSS	██████	████
Construction	TG-GSS-C-05	6	Spiral Case Spool Piece, Flexible Coupling and Penstock Closure Piece in Position; Ready for Exciter Floor Installation	GSS	TG	██████	██████
Construction	GSS-TG-C-09	6	Exciter and Transformer Floors Ready	TG	GSS	██████	██████
Construction	GSS-TG-C-10	6	Powerhouse Bridge Cranes Ready for Rotor Lift	TG	GSS	██████	██████
Construction	TG-CC-C-01	6	Unit Cooling Water System Ready for Connection to the Powerhouse Raw Water Header	CC	TG	██████	██
Construction	TG-CC-C-02	6	Unit Cooling Water System Ready for Connection to the Unit Cooling Water Discharge Header	CC	TG	██████	██
Construction	CC-TG-C-01	6	Powerhouse Raw Water Header Connected to the Unit Cooling Water System	TG	CC	██████	██
Construction	CC-TG-C-02	6	Unit Cooling Water Discharge Header Connected to the Unit Cooling Water System	TG	CC	██████	██
Construction	TG-CC-C-03	6	Unit Heat Recovery Supply and Return Pipes Ready for Connection to HVAC System	CC	TG	██████	██
Construction	CC-TG-C-03	6	Unit Heat Recovery Supply and Return Pipes Connected to HVAC System	TG	CC	██████	██
Construction	TG-CC-C-04	6	Draft Tube Water Depression System Ready for Connection to the Station Air System	CC	TG	██████	██
Construction	CC-TG-C-04	6	Draft Tube Water Depression System Connected to Station Air System	TG	CC	██████	████
Construction	TG-CC-C-05	6	Generator Brake Air Supply Ready for Connection to the Station Air System	CC	TG	██████	██
Construction	CC-TG-C-05	6	Generator Brake Air Supply Connected to the Station Air System	TG	CC	██████	██

## Supply and Installation of Turbines and Generators – Appendix 4-8 [Interface Requirements]

Construction	TG-CC-C-06	6	Shaft-line Air Admission System Ready for Connection to the Shaft-Line Air Admission Inlet Pipe	CC	TG	██████	██
Construction	CC-TG-C-06	6	Shaft-Line Air Admission Inlet Pipe Connected to the Shaft-Line Air Admission System	TG	CC	██████	██
Construction	TG-CC-C-07	6	Generator Deluge System Ready for Connection to Deluge Supply/Drain Pipes	CC	TG	██████	██
Construction	CC-TG-C-07	6	Generator Deluge System Connected to Deluge Supply/Drain Pipes	TG	CC	██████	██
Construction	TG-CC-C-08	6	Installation of the Turbine Terminal Panel	CC	TG	██████	██
Construction	CC-TG-C-08	6	Terminations in the Turbine Terminal Panel	TG	CC	██████	██
Construction	CC-TG-C-09	6	Connection Between the Generator Phase Terminals and the Isophase Bus	TG	CC	██████	██
Construction	TG-CC-C-09	6	Installation of the Generator Terminal Cabinet, Generator RTD Terminal Panel, and Generator Fire Protection Terminal Panel	CC	TG	██████	██
Construction	CC-TG-C-10	6	Connection Between the Generator Neutral Terminals and the Neutral Grounding Cabinet	TG	CC	██████	██
Construction	CC-TG-C-11	6	Terminations in the Generator Terminal Cabinet and Panels	TG	CC	██████	██
Construction	TG-CC-C-10	6	Installation of the Governor Control Cabinet, HPU, HPOIS and Air System	CC	TG	██████	██
Construction	CC-TG-C-12	6	Terminations in the Governor Control Cabinet, HPOIS and HPU	TG	CC	██████	██
Construction	TG-CC-C-11	6	Installation of the Exciter and Exciter Transformer Cubicles	CC	TG	██████	██
Construction	CC-TG-C-13	6	Terminations in the Exciter and Exciter Transformer Cubicles	TG	CC	██████	██
Construction	CC-TG-C-14	6	Connection of the Isophase Bus to the Exciter Transformer	TG	CC	██████	██
Construction	CC-TG-C-15	6	Unit Grounding Installed	TG	CC	██████	██

### 3.1.2 Maximum Amount of Liquidated Damages for Concurrent Milestones

Notwithstanding the separate Liquidated Damages amounts specified in the Interface Milestones Table for each of milestones CC-TG-C-01 through CC-TG-C-15, the Responsible Party will only be liable to a maximum amount of Liquidated Damages of ██████ per day in respect of not achieving such milestones by the applicable Interface Milestone Dates.

### 3.2 Interface Descriptions

The Interface Contractors will complete their respective work relating to an Interface as described in this Section 3.2 at no cost to the Contractor.

#### 3.2.1 GSS-TG-D-01 – Concrete Placement Plan and Schedule of Embedments and Blockouts

GSS will prepare and submit a detailed Concrete Placement Plan and Schedule for all concrete to be placed in the Generating Station. The Concrete Placement Plan and Schedule will delineate the limits of each pour and the boundaries between pours, and will identify each pour as 1<sup>st</sup> or 2<sup>nd</sup> stage concrete. Embedded parts and/or blockouts to be included in each pour will be sufficiently detailed to allow installation, by the Contractor, of necessary embedded parts as appropriate.

### 3.2.2 GSS-TG-D-02 – Spiral Case Hydrostatic Test and Spiral Case Embedment Procedures

GSS will prepare a spiral case hydrostatic test procedure and a spiral case embedment procedure, both of which will describe the test steps, sequence, hold points, equipment to be used and risk mitigation plans.

### 3.2.3 GSS-TG-I-01 – Storage Warehouse Ready

GSS will provide a laydown space of approximately 10,000 m<sup>2</sup>, including a 1400m<sup>2</sup> heated warehouse for TG.

### 3.2.4 GSS-TG-I-02 – Electric Power for TG Site Office and Lunchroom

GSS will provide electric power (600V, 200A) for the TG site office and lunch room.

### 3.2.5 GSS-TG-I-03 – Not Used

### 3.2.6 GSS-TG-I-04 – Supply of Untreated Water

GSS will supply untreated water within 5m of the powerhouse at several centrally-located valved outlets.

### 3.2.7 GSS-TG-I-05 – Powerhouse Construction Electric Power

GSS will provide electric power in the powerhouse for its own use and for use by TG during construction.

### 3.2.8 GSS-TG-I-06 – Powerhouse Construction HVAC system

GSS will provide a temporary construction heating, ventilation and air conditioning system for its own use and use by TG.

### 3.2.9 GSS-TG-I-07 – West Service Bay Ready

GSS to complete the west service bay, including the substructure, floor to elevation 420m, powerhouse superstructure, bridge crane rails, and wall and roof cladding, and make available for TG use. GSS to also make one powerhouse bridge crane ready and available for TG use. The bridge crane will be rated to 50% of its nameplate capacity.

### 3.2.10 TG-GSS-C-01 – Turbine 1<sup>st</sup> Stage Concrete Components at Site

TG to deliver the draft tube pier nose, draft tube elbow access door, draft tube 1<sup>st</sup> stage concrete anchors, penstock drain pipe and all other pipes and conduits to be embedded in 1<sup>st</sup> stage concrete to the site, prepare them for installation, and handover to GSS.

### 3.2.11 GSS-TG-C-01 – Draft Tube 1<sup>st</sup> Stage Concrete Complete

GSS to install the draft tube pier nose, elbow access door, formwork, 1<sup>st</sup> stage concrete anchors, 1<sup>st</sup> stage concrete pipes and conduits and 1<sup>st</sup> stage concrete reinforcements, and to complete the draft tube 1<sup>st</sup> stage concrete. Unit ready for draft tube elbow installation by TG.

### 3.2.12 GSS-TG-C-02 – Unit Bay Superstructure Complete and Bridge Crane Ready

GSS to complete the powerhouse superstructure over the Unit bay, including the bridge crane rails, and the cladding on the roof and the upstream and downstream walls. GSS to also make one powerhouse bridge crane ready and available for TG use. The bridge crane will be rated to 50% of its nameplate capacity.

### 3.2.13 TG-GSS-C-02 – Draft Tube Elbow and Anchors Installed

TG to install the draft tube elbow steel liner and 2<sup>nd</sup> stage concrete anchors and complete the connections between the liner and pipes embedded in 1<sup>st</sup> stage concrete (for example, penstock and draft tube drain pipes) and handover the Unit to GSS. Unit ready for draft tube elbow 2<sup>nd</sup> stage concrete by GSS.

### 3.2.14 GSS-TG-C03 – Draft Tube Elbow 2<sup>nd</sup> Stage Concrete Complete

GSS to embed the draft tube elbow in 2<sup>nd</sup> stage concrete. Unit ready for installation of draft tube cone by TG.

### 3.2.15 TG-GSS-C-03 – Draft Tube Cone and Anchors Installed

TG to install draft tube cone and 2<sup>nd</sup> stage concrete anchors and handover the Unit to GSS. Unit ready for draft tube cone 2<sup>nd</sup> stage concrete by GSS.

### 3.2.16 GSS-TG-C-04 – Draft Tube Cone 2<sup>nd</sup> Stage Concrete Complete and Spiral Case Foundation Ready

GSS to embed the draft tube cone in 2<sup>nd</sup> stage concrete and complete the spiral case foundation, including the installation of saddles, and handover the Unit to TG for spiral case assembly.

### 3.2.17 TG-GSS-C-04 – Stay Ring and Spiral Case Assembled and Handover of Generator Embedded Parts

TG to install and assemble the lower wicket gate bushing chamber, stay ring, spiral case, turbine pit liner, servomotor base plates, headcover drainage pipes, and lower wicket gate bushing chamber drainage pipes, including completing the connections between the drainage pipes and drainage manifolds provided by Interface Contractors. TG to provide access to GSS to pour flowable mortar between saddles and spiral case, including allowing adequate time for the mortar to develop full strength prior to the applicable Interface Milestone Date. TG to handover generator embedded parts, including foundation and anchor bolts for the lower bracket, stator frame, brake pedestals and upper bracket, to GSS. TG to install bulkheads for the spiral case hydrostatic pressure test and handover the Unit to GSS. Unit ready for spiral case hydrostatic pressure test by GSS.

### 3.2.18 GSS-TG-C-05 – Spiral Case Hydrostatic Pressure Test Complete

GSS to perform the spiral case hydrostatic pressure test as per the Spiral Case Hydrostatic Test Procedure. Unit ready for spiral case 2<sup>nd</sup> stage concrete reinforcement and embedment by GSS.

### 3.2.19 GSS-TG-C-06 – Spiral Case Embedded and Generator 2<sup>nd</sup> Stage Concrete Complete; Pit Free

GSS to install the spiral case reinforcement and embed the spiral case in 2<sup>nd</sup> stage concrete, including grouting of voids behind the spiral case with the spiral case still pressurised. GSS to install and position the generator foundation and anchor bolts and embed them in 2<sup>nd</sup> stage concrete. Following completion of 2<sup>nd</sup> stage concrete to the generator floor, GSS to construct the generator enclosure (including concrete and reinforcements), and perform all work required to complete the 2<sup>nd</sup> stage concrete to the powerhouse main floor and make the Unit ready for installation of the turbine and generator (“Pit Free”). GSS to handover the Unit to TG in Pit Free state for assembly of the turbine and generator.

### 3.2.20 GSS-TG-C-07 – Spiral Case Drained

GSS to drain the water from the spiral case. Unit ready for removal of the spiral case bulkhead and completion of the spiral case by TG.

### 3.2.21 GSS-TG-C-08 – Downstream End of Penstock Ready

GSS to complete the downstream end of the penstock in the spiral case/penstock coupling chamber, including the weld-preparation for the penstock closure piece and with penstock internal bracing left in place. GSS to complete encasement of penstock lower elbow and backfill service yard upstream of powerhouse up to elevation between 416m to 420m. GSS to provide pad suitable for TG mobile crane used for handling of spiral case/penstock coupling chamber components (test bulkhead, spool piece, closure piece). Unit ready for the installation of the spiral case/penstock coupling chamber components by TG.

### 3.2.22 TG-GSS-C-05 – Spiral Case Spool Piece, Flexible Coupling and Penstock Closure Piece in Position; Ready for Exciter Floor Installation

TG to remove the spiral case test bulkhead and place the spiral case spool piece, flexible coupling and penstock closure piece in their final positions. Unit ready for completion of the exciter floor and transformer floor by GSS.

### 3.2.23 GSS-TG-C-09 – Exciter and Transformer Floors Ready

GSS to complete the remaining concrete work for the exciter and transformer floors, including the removal of all formwork and shoring. Exciter floor ready for installation of the Exciter by TG.

### 3.2.24 GSS-TG-C-10 – Powerhouse Bridge Cranes Ready for Rotor Lift

GSS to make both powerhouse bridges cranes ready and available for use by TG to lift a fully assembled generator rotor from the service bay and install it into its respective Unit.

### 3.2.25 TG-CC-C-01 – Unit Cooling Water System Ready for Connection to the Powerhouse Raw Water Header

TG to make the Unit cooling water system ready for connection to the powerhouse raw water header. TG to install the flange on the Unit cooling water inlet pipe, and issue matching loose flange, bolts and gasket to CC for installation on the raw water pipe.

### 3.2.26 TG-CC-C-02 – Unit Cooling Water System Ready for Connection to the Unit Cooling Water Discharge Header

TG to make the Unit cooling water system ready for connection to the Unit cooling water discharge header. TG to install the flange on Unit cooling water discharge pipe, and issue matching loose flange, bolts and gasket to CC for installation on the discharge header pipe.

### 3.2.27 CC-TG-C-01 - Powerhouse Raw Water Header Connected to the Unit Cooling Water System

CC to complete the powerhouse raw water system header and connect it to the Unit cooling water system. CC to test the completed piping system.

### 3.2.28 CC-TG-C-02 - Unit Cooling Water Discharge Header Connected to the Unit Cooling Water System

CC to complete the Unit cooling water discharge header and connect it to the Unit cooling water system. CC to test the completed piping system.

### 3.2.29 TG-CC-C-03 – Unit Heat Recovery Supply and Return Pipes Ready for Connection to HVAC System

TG to make the Unit heat recovery supply and return pipes ready for connection to the HVAC system. TG to install flanges on the Unit heat recovery supply and return pipes, and issue matching loose flanges, bolts and gaskets to CC for installation on the HVAC system supply and return pipes.

### 3.2.30 CC-TG-C-03 - Unit Heat Recovery Supply and Return Pipes Connected to HVAC System

CC to complete the Unit HVAC system and connect it to the Unit heat recovery supply and return pipes. CC to test the completed piping system.

### 3.2.31 TG-CC-C-04 – Draft Tube Water Depression System Ready for Connection to the Station Air System

TG to make the draft tube water depression system ready for connection to the station air system. TG to install the flange on the Unit draft tube water depression pipe, and issue matching loose flange, bolts and gasket to CC for installation on the station air header pipe. This connection point only applies to those three units provided with synchronous condensing operational capability.

### 3.2.32 CC-TG-C-04 - Draft Tube Water Depression System Connected to Station Air System

CC to complete the station air system and connect it to the draft tube water depression pipe. This connection point only applies to those three units provided with synchronous condensing operational capability. CC to test the completed piping system.

### 3.2.33 TG-CC-C-05 – Generator Brake Air Supply Ready for Connection to the Station Air System

TG to make the generator brake air supply ready for connection to the station air system. TG to install the flange on the Unit brake air supply pipe, and issue matching loose flange, bolts and gasket to CC for installation on the station air header pipe.

### 3.2.34 CC-TG-C-05 - Generator Brake Air Supply Connected to the Station Air System

CC to complete the station air system and connect it to the generator brake air supply. CC to test the completed piping system.

### 3.2.35 TG-CC-C-06 – Shaft-line Air Admission System Ready for Connection to the Shaft-Line Air Admission Inlet Pipe

TG to make the shaft-line air admission system ready for connection to the air inlet piping. TG to install the flange on the Unit air admission pipe, and issue matching loose flange, bolts and gasket to CC for installation on the pipe supplying air to the air admission system.

### 3.2.36 CC-TG-C-06 - Shaft-Line Air Admission Inlet Pipe Connected to the Shaft-Line Air Admission System

CC to complete the shaft line air admission inlet pipe and connect it to the shaft line air admission system. CC to test the completed piping system.

### 3.2.37 TG-CC-C-07 – Generator Deluge System Ready for Connection to Deluge Supply/Drain Pipes

TG to make the generator deluge system ready for connection to the deluge air supply and water supply/drain pipes. TG to install flanges on the Unit air supply pipe and Unit deluge water supply/drain

pipes, and issue matching loose flanges, bolts and gaskets to CC for installation on the station air supply pipe and station deluge water supply/drain pipes.

### 3.2.38 CC-TG-C-07 - Generator Deluge System Connected to Deluge Supply/Drain Pipes

CC to complete the generator deluge system air supply pipe and water supply/drain pipes and connect them to the generator deluge system. CC to test the completed system.

### 3.2.39 TG-CC-C-08 – Installation of the Turbine Terminal Panel

TG to supply and install the Turbine Terminal Panel, except, for the purposes only of completing this Interface Work, the installation of wiring is not included.

### 3.2.40 CC-TG-C-08 - Terminations in the Turbine Terminal Panel

CC to supply, install and terminate all required power, control, instrumentation and data cables between the Turbine Termination Panel and equipment supplied by CC or Others (including but not limited to PAM, UCB, RTU and distribution panel).

### 3.2.41 CC-TG-C-09 – Connection between the Generator Phase Terminals and the Isophase Bus

CC to connect the generator phase terminals to the isophase bus.

### 3.2.42 CC-TG-C-10 – Connection between the Generator Neutral Terminals and the Neutral Grounding Cabinet

CC to install and terminate the neutral ground cables between the generator neutral terminals and the neutral grounding cabinet.

### 3.2.43 TG-CC-C-09 – Installation of the Generator Terminal Cabinet, Generator RTD Terminal Panel, and Generator Fire Protection Terminal Panel

TG to install the Generator Terminal Cabinet, the Generator RTD Terminal Panel, and the Generator Fire Protection Terminal Panel, except, for the purposes only of completing this Interface Work, the installation of wiring is not included.

### 3.2.44 CC-TG-C-11 - Terminations in the Generator Terminal Cabinet and Panels

CC to supply, install and terminate all required power, control, instrumentation and data cables between the Generator Termination Cabinet, the Generator RTD Terminal Panel, and the Generator Fire Protection Terminal Panel to equipment supplied by CC or Others (including but not limited to PAM, UCB, MCC, RTU and distribution panel).

### 3.2.45 TG-CC-C-10 – Installation of the Governor Control Cabinet, HPU, HPOIS and Air System

TG to install the governor control cabinet, hydraulic power unit and make-up air receiver. TG to install the flange on the make-up air receiver inlet pipe, and issue matching loose flange, bolts and gasket to CC for installation on the governor make-up air manifold. TG to install the high pressure oil injection system. For Unit 1, TG to install the governor make-up air compressor system, installation of a flange on the air compressor system outlet pipe, and issuance of a matching loose flange, bolts and gasket to CC for installation on the governor make-up air manifold.

### 3.2.46 CC-TG-C-12 - Terminations in the Governor Control Cabinet, HPOIS and HPU

CC to supply, install and terminate all required power, control, instrumentation and data cables between the Governor Control Cabinet, HPOIS and HPU to equipment supplied by CC or Others (including but not limited to PAM, UCB, MCC, RTU and distribution panel). Includes permanent power supply, air supply and shaft seal water supply.

### 3.2.47 TG-CC-C-11 – Installation of the Exciter and Exciter Transformer Cubicles

TG to install the Exciter and Exciter Transformer Cubicles (excluding wiring installation from TG scope to the panels)

### 3.2.48 CC-TG-C-13 - Terminations in the Exciter and Exciter Transformer Cubicles

CC to supply, install and terminate all required power, control, instrumentation and data cables between the excitation transformer and exciter, to equipment supplied by CC or Others (including but not limited to PAM, UCB, MCC, RTU and distribution panel).

### 3.2.49 CC-TG-C-14 – Connection of the Isophase Bus to the Exciter Transformer

CC to connect the isophase bus to the exciter transformer.

### 3.2.50 CC-TG-C-15 – Unit Grounding Installed

CC to install and test the non-embedded grounding conductors and connect to the station grounding grid.

## 3.3 Completion of Interface Work

The Contractor will, for each TG Interface, complete all the Interface Work in connection with each TG Interface on or before 9:00pm Fort St. John time on the then current Interface Milestone Date for that TG Interface.

## **4 COORDINATION OF INTERFACE WORK**

### 4.1 Coordination Protocol

The parties will observe the following protocol in respect of coordinating the Interface Work:

- (a) for each TG Interface, the Contractor will provide to Hydro's Representative in writing:
  - (i) notice of any remaining Interface Work to be completed by the Contractor in relation to that TG Interface;
  - (ii) confirmation that the Contractor will complete all Interface Work in connection with that TG Interface by the then current Interface Milestone Date for that TG Interface; and
  - (iii) confirmation that the Contractor will, by the then current Interface Milestone Date for that TG Interface, provide Site access to the applicable Interface Contractor and that the work area will be turned over in accordance with the requirements set out in Schedule 10 [Safety],

no less than 14 days prior to the then current Interface Milestone Date for that TG Interface;
- (b) for each TG Interface, the Contractor will schedule an inspection of the Interface Work in connection with that TG Interface by Hydro's Representative and the applicable Interface

Contractor no less than seven days prior to the then current Interface Milestone Date for that TG Interface, and document the inspection in the Work Area Inspection Form attached as Exhibit 4-8-1 [Work Area Inspection Form];

- (c) if after inspecting the Interface Work in connection with that TG Interface, Hydro's Representative considers, acting reasonably, that the Interface has been completed in accordance with the Contract Documents, BC Hydro may relay to the applicable Interface Contractor confirmation of the date that access to the Site is expected to be provided by the Contractor to such Interface Contractor and facilitate the completion of the Work Area Handover Form attached as Exhibit 4-8-2 [Work Area Handover Form], by the Contractor and the applicable Interface Contractor; and
- (d) if after inspecting Interface Work in connection with that TG Interface, Hydro's Representative considers, acting reasonably, that the Interface has not been completed in accordance with the Contract Documents, BC Hydro may direct the Contractor to perform corrective Work so that the Interface Work is completed in accordance with the Contract Documents.

#### 4.2 Work Performed by Interface Contractors

If any part of the Interface Work of the Contractor in respect of an Interface depends for proper execution or results upon the work of an Interface Contractor, the Contractor will, prior to proceeding with its Interface Work for that Interface, report to Hydro's Representative immediately any discrepancies or defects in the work performed by the Interface Contractor and, if the initial report was not in writing, confirm such report to Hydro's Representative in writing within three days of making the initial report.

#### 4.3 Damage to Work of Others

Subject to Section 17.2(b) of Schedule 2 [Design and Construction Protocols], if the Contractor causes or is alleged to have caused any damage to any work of an Interface Contractor, then without prejudice to the Contractor's rights to Dispute under Section 16 of Schedule 2 [Design and Construction Protocols]:

- (a) the Contractor will permit the Interface Contractor such access to the Site as may be required by the Interface Contractor for the purpose of investigating or repairing such damage;
- (b) Hydro's Representative may from time to time issue to the Contractor's Representative an account of costs claimed by the Interface Contractor from BC Hydro in connection with investigating or repairing such damage;
- (c) the Contractor will reimburse BC Hydro for any such costs within 30 days of receiving an account of costs under Section 4.3(b) of this Appendix 4-8 [Interface Requirements]; and
- (d) the Contractor's compliance with Section 4.3 of this Appendix 4-8 [Interface Requirements] will be deemed to be compliance by the Contractor of its obligations under Section 17.2(a)(ii) of Schedule 2 [Design and Construction Protocols].

#### 4.4 Damage to Contractor's Work by Interface Contractors

If an Interface Contractor causes or is alleged to have caused any damage to the Work of the Contractor, then without prejudice to BC Hydro's rights to Dispute under Section 16 of Schedule 2 [Design and Construction Protocols]:

- (a) the Contractor will take all steps as may reasonably be required in order to mitigate any damage to it on account of the damage to such Work;
- (b) the Contractor will investigate and repair the damage to its Work without delay;

- (c) the Contractor will maintain daily records of the resources used in connection with any investigation or repair on account of the damage, including labour, equipment and materials, prepared contemporaneously with the execution of those repairs, and will submit such records to Hydro's Representative, together with the amount claimed for the cost of such investigation or repair, on a rolling two business day basis;
- (d) BC Hydro will reimburse the Contractor for the Contractor's costs of investigation or repair, which amount will be deemed to be full satisfaction of any Claim the Contractor had or may in the future have in connection with that damage; and
- (e) the Contractor will, as part of the Work, provide such assistance as BC Hydro may reasonably require in support of a claim BC Hydro may advance against the Interface Contractor for recovery of such costs.

## **5 INTERFACE DELAYS**

### **5.1 Liquidated Damages Rate**

The Liquidated Damages set out in the Interface Milestones Table are the amount of damages the parties have agreed will be paid by one party to the other upon the occurrence of a defined event and the parties confirm and agree that amount of each specified Liquidated Damages as described in Section 5 of this Appendix 4-8 [Interface Requirements] represents a genuine and reasonable pre-estimate of damages that will be incurred by the party suffering the damages upon occurrence of the defined event, and each such amount is not a penalty, as follows:

- (a) in the case of an Interface for which the Contractor is listed in the Interface Milestones Table in the column entitled "Responsible Party" (each a "**TG Interface**"), the damages that BC Hydro will suffer on account of the failure of the Contractor to complete the Contractor's Interface Work by the then current Interface Milestone Date for every day (or portion of a day) that elapses between that Interface Milestone Date and the date on which that TG Interface is completed; or
- (b) in the case of an Interface for which the Contractor is listed in the Interface Milestone Table in the column entitled "Affected Party" (each an "**GSS/CC Interface**"), the damages that the Contractor will suffer on account of the failure of the applicable Interface Contractor to complete its work relating to a GSS/CC Interface by the then current Interface Milestone Date for every day (or portion of a day) that elapses between that Interface Milestone Date and the date on which that GSS/CC Interface is completed.

### **5.2 Delay to the Completion of a TG Interface**

If, during the performance of Interface Work, the Contractor is delayed for any reason and does not complete a TG Interface by the then current Interface Milestone Date (a "**TG Interface Completion Delay**"), then the provisions of this Section 5.2 will apply, and the provisions of Sections 11.1, 11.2, 11.3, 11.4, 11.5, 11.6 and 11.7 of Schedule 2 [Design and Construction Protocols] will not apply unless otherwise expressly set out below. Without limiting the remaining provisions of Section 11 of Schedule 2 [Design and Construction Protocols], including Sections 11.9 and 11.10 of Schedule 2 [Design and Construction Protocols], this Section 5.2 sets out each party's sole remedy with respect to that TG Interface Completion Delay:

- (a) *Notice*: the Contractor will provide written notice to Hydro's Representative of the TG Interface Completion Delay in accordance with Section 11.8 of Schedule 2 [Design and Construction Protocols];
- (b) *Extension of Interface Milestone Dates and Date for Completion of Milestones*: the then current Interface Milestone Date for any Interface yet to be completed that is dependent on completion of

that TG Interface, and the date for completion of any Milestone yet to be completed that is dependent on completion of that TG Interface (except that any extension of a 'Single Unit Substantial Completion' date will be subject to the terms of Section 5.4 of this Appendix 4-8 [Interface Requirements]), will be extended by the period of that TG Interface Completion Delay, calculated as the time equal to the duration between the then current Interface Milestone Date and the date the applicable TG Interface is completed;

- (c) *Contractor Payment of Liquidated Damages:* the Contractor will pay to BC Hydro Liquidated Damages for the TG Interface Completion Delay, calculated by applying the Liquidated Damages amount for that TG Interface, as set out in the Interface Milestones Table, to the number of days (or portion of days) that elapse between the then current Interface Milestone Date for that TG Interface and the date on which that TG Interface is completed, except that the Contractor will not owe such Liquidated Damages for any day (or portion of a day) of that TG Interface Completion Delay when:
- (i) *No Delay to Interface Contractor:* the applicable Interface Contractor is not actually delayed in the performance of its work;
  - (ii) *Interface Contractor Contribution to Delay:* the sole cause of such delay is an Interface Contractor, or a Person for whom an Interface Contractor is in law responsible, including as a result of a labour dispute as described in the first paragraph of Section 11.3 of Schedule 2 [Design and Construction Protocols];
  - (iii) *Public Protest or Project Delay:* the sole cause of such delay is a public protest (as described in Section 11.5 of Schedule 2 [Design and Construction Protocols]) or a Project Delay;
  - (iv) *Force Majeure:* the sole cause of such delay is an event of Force Majeure; or
  - (v) *BC Hydro Contribution to Delay:* the sole cause of such delay is BC Hydro or a Person for whom BC Hydro is in law responsible (other than an Interface Contractor and those engaged by or through an Interface Contractor), including as a result of:
    - (A) a changed Site condition as described in Section 6.3 of Schedule 2 [Design and Construction Protocols];
    - (B) the circumstances described in Section 17.3 of Schedule 2 [Design and Construction Protocols];
    - (C) the circumstances described in Section 17.5 of Schedule 2 [Design and Construction Protocols]; or
    - (D) the circumstances described in the second paragraph of Section 18.11 of Schedule 2 [Design and Construction Protocols];
- (d) *BC Hydro Payment of Liquidated Damages:* if the sole cause of a day (or portion of a day) of the TG Interface Completion Delay is an Interface Contractor, or a Person for whom an Interface Contractor is in law responsible, then BC Hydro will pay to the Contractor Liquidated Damages for such delay, calculated by applying the Liquidated Damages amount for that TG Interface, as set out in the Interface Milestones Table, to each day (or portion of a day) of such delay, except that:
- (i) the Contractor will only be entitled to claim Liquidated Damages for any day (or portion of a day) when the Contractor is actually delayed in the performance of the Interface Work for that TG Interface by that Interface Contractor, or a Person for whom that Interface Contractor is in law responsible; and

- (ii) the Contractor will not be entitled to, nor will the Contractor make any claim for, Liquidated Damages for any day (or portion of a day) of such delay when the Contractor failed to mitigate pursuant to Section 29.2 of Schedule 2 [Design and Construction Protocols];
- (e) *BC Hydro Other Payments for the TG Interface Completion Delay*: if the sole cause of a day (or portion of a day) of the TG Interface Completion Delay is:
- (i) *Public Protest or Project Delay*: a public protest (as described in Section 11.5 of Schedule 2 [Design and Construction Protocols]) or a Project Delay, then the provisions of Section 15.1 and Section 15.2 of Schedule 2 [Design and Construction Protocols] will apply and the Contractor will only be entitled to the remedies set out in the second paragraph of Section 15.2 of Schedule 2 [Design and Construction Protocols]; or
  - (ii) *BC Hydro Delay*: BC Hydro or a Person for whom BC Hydro is in law responsible (other than an Interface Contractor and those engaged by or through an Interface Contractor), including if the delay is the result of:
    - (A) a changed Site condition as described in Section 6.3 of Schedule 2 [Design and Construction Protocols];
    - (B) the circumstances described in Section 17.3 of Schedule 2 [Design and Construction Protocols];
    - (C) the circumstances described in Section 17.5 of Schedule 2 [Design and Construction Protocols]; or
    - (D) the circumstances described in the second paragraph of Section 18.11 of Schedule 2 [Design and Construction Protocols],

then with respect to each day (or portion of a day) of such delay the provisions set out in Section 11.1(b) of Schedule 2 [Design and Construction Protocols] will apply and the Contractor will only be entitled to the remedies set out in Section 11.1(b) of Schedule 2 [Design and Construction Protocols]; and
- (f) *Concurrent Causes of Delay*: notwithstanding the above, if for any day (or portion of a day) of the TG Interface Completion Delay there is more than one concurrent cause of delay, then the following will apply with respect to payments owing on account of such day (or portion of a day) of delay:
- (i) *Force Majeure Concurrent Cause of Delay*: if one of the concurrent causes of delay is an event of Force Majeure, then the provisions of Section 11.4 of Schedule 2 [Design and Construction Protocols] will govern and neither party will owe any payments to the other for such delay;
  - (ii) *Contractor Concurrent Cause of Delay*: if the Contractor, or a Person for whom the Contractor is in law responsible, has caused or contributed to one of the concurrent causes of delays, then the Contractor will not be entitled to, nor will the Contractor make any claim for, reimbursement or payment for any costs suffered as a result of the delay, including for any Liquidated Damages;

- (iii) *No Contractor Delay*: if neither the Contractor, nor any Person for whom the Contractor is in law responsible, has caused or contributed to the concurrent causes of delay, and:
- (A) one of the concurrent causes of delay is an Interface Contractor, or a Person for whom that Interface Contractor is in law responsible, and the Contractor would, but for the concurrency, have been entitled to be paid Liquidated Damages under Section 5.2(d) of this Appendix 4-8 [Interface Requirements]; and
  - (B) another concurrent cause of delay is one or more of the events described in Section 5.2(e) of this Appendix 4-8 [Interface Requirements],
- then the Contractor will be entitled to be paid Liquidated Damages under Section 5.2(d) of this Appendix 4-8 [Interface Requirements] and will not be entitled to, nor will the Contractor make any claim for, any of the remedies described in Section 5.2(e) of this Appendix 4-8 [Interface Requirements]; and
- (iv) *No Contractor and No Interface Contractor Delay*: if neither the Contractor, nor any Person for whom the Contractor is in law responsible, nor an Interface Contractor, nor any Person for whom an Interface Contractor is in law responsible, has caused or contributed to a concurrent cause of delay, and there are concurrent delays caused by one or more of the events described in Section 5.2(e) of this Appendix 4-8 [Interface Requirements], then the provisions set out in Section 11.1(b) of Schedule 2 [Design and Construction Protocols] will apply and the Contractor will only be entitled to the remedies set out in Section 11.1(b) of Schedule 2 [Design and Construction Protocols].

For the avoidance of doubt, if a concurrent cause of delay is caused or contributed to by the Contractor or an Interface Contractor (as applicable) but such Contractor or Interface Contractor (as applicable) is unable to cure its cause of delay because of another concurrent cause of delay that is one of the causes described in Section 5.2(e) of this Appendix 4-8 [Interface Requirements], then for any day (or portion of a day) when such Contractor or Interface Contractor (as applicable) is prevented from curing its cause of delay because of the concurrent Section 5.2(e) of this Appendix 4-8 [Interface Requirements] delay, such Contractor or Interface Contractor (as applicable) will be deemed not to be a cause of or contributor to a concurrent delay.

### 5.3 Delay to the Completion of a GSS/CC Interface

If, during the performance of an Interface Contractor's work relating to a GSS/CC Interface, that Interface Contractor is delayed for any reason and does not complete a GSS/CC Interface by the then current Interface Milestone Date (a "**GSS/CC Interface Completion Delay**"), then the provisions of this Section 5.3 will apply, and the provisions of Sections 11.1, 11.2, 11.3, 11.4, 11.5, 11.6 and 11.7 of Schedule 2 [Design and Construction Protocols] will not apply unless otherwise expressly set out below. Without limiting the remaining provisions of Section 11 of Schedule 2 [Design and Construction Protocols], including Sections 11.9 and 11.10 of Schedule 2 [Design and Construction Protocols], this Section 5.3 sets out each party's sole remedy with respect to that GSS/CC Interface Completion Delay:

- (a) *Notice*: the Contractor will provide written notice to Hydro's Representative of the GSS/CC Interface Completion Delay in accordance with Section 11.8 of Schedule 2 [Design and Construction Protocols];
- (b) *Extension of Interface Milestone Dates and Dates for Completion of Milestones*: the then current Interface Milestone Date for any Interface yet to be completed that is dependent on completion of that GSS/CC Interface, and the date for completion of any Milestone yet to be completed that is dependent on completion of that GSS/CC Interface (except that any extension of a 'Single Unit Substantial Completion' date will be subject to the terms of Section 5.4 of this Appendix 4-8

[Interface Requirements]), will be extended by the period of such delay, calculated as the time equal to the duration between the then current Interface Milestone Date and the date that GSS/CC Interface is completed;

- (c) *BC Hydro Payment of Liquidated Damages:* BC Hydro will pay to the Contractor Liquidated Damages for the GSS/CC Interface Completion Delay, calculated by applying the Liquidated Damages amount for that GSS/CC Interface, as set out in the Interface Milestones Table, to the number of days (or portion of days) that elapse between the then current Interface Milestone Date for that GSS/CC Interface and the date on which that GSS/CC Interface is completed, except that BC Hydro will not owe such Liquidated Damages for any day (or portion of a day) of that GSS/CC Interface Completion Delay when:
- (i) *No Delay to Contractor:* the Contractor is not actually delayed in the performance of the Work;
  - (ii) *Contractor Contribution to Delay:* the sole cause of such delay is the Contractor, or a Person for whom the Contractor is in law responsible, including as a result of a labour dispute as described in the first paragraph of Section 11.3 of Schedule 2 [Design and Construction Protocols];
  - (iii) *Public Protest or Project Delay:* the sole cause of such delay is a public protest (as described in Section 11.5 of Schedule 2 [Design and Construction Protocols]) or a Project Delay;
  - (iv) *Force Majeure Delay:* the sole cause of such delay is an event of Force Majeure; or
  - (v) *BC Hydro Contribution to Delay:* the sole cause of such delay is BC Hydro or a Person for whom BC Hydro is in law responsible (other than an Interface Contractor and those engaged by or through an Interface Contractor), including as a result of:
    - (A) a changed Site condition as described in Section 6.3 of Schedule 2 [Design and Construction Protocols];
    - (B) the circumstances described in Section 17.3 of Schedule 2 [Design and Construction Protocols];
    - (C) the circumstances described in Section 17.5 of Schedule 2 [Design and Construction Protocols]; or
    - (D) the circumstances described in the second paragraph of Section 18.11 of Schedule 2 [Design and Construction Protocols];
- (d) *Contractor Payment of Liquidated Damages:* if the sole cause of a day (or portion of a day) of the GSS/CC Interface Completion Delay is the Contractor, or a Person for whom the Contractor is in law responsible, then the Contractor will pay to BC Hydro Liquidated Damages calculated by applying the Liquidated Damages amount for that GSS/CC Interface, as set out in the Interface Milestones Table, to each day (or portion of a day) of such delay, except that:
- (i) the Contractor will only owe Liquidated Damages for the day(s) (or portion of a day) of such delay when the applicable Interface Contractor is actually delayed in the performance of its work relating to that GSS/CC Interface by the Contractor, or a Person for whom the Contractor is in law responsible; and

- (ii) the Contractor will not owe such Liquidated Damages for any day (or portion of a day) of such delay when the Interface Contractor failed to mitigate the delay pursuant to its contract with BC Hydro;
- (e) *BC Hydro Other Payments for the GSS/CC Interface Completion Delay*: the sole cause of a day (or portion of a day) of the GSS/CC Interface Completion Delay is:
- (i) *Public Protest or Project Delay*: a public protest (as described in Section 11.5 of Schedule 2 [Design and Construction Protocols]) or a Project Delay, then the provisions of Section 15.1 and Section 15.2 of Schedule 2 [Design and Construction Protocols] will apply and the Contractor will only be entitled to the remedies set out in the second paragraph of Section 15.2 of Schedule 2 [Design and Construction Protocols]; or
  - (ii) *BC Hydro Delay*: BC Hydro or a Person for whom BC Hydro is in law responsible (other than an Interface Contractor and those engaged by or through an Interface Contractor), including if the delay is the result of:
    - (A) a changed Site condition as described in Section 6.3 of Schedule 2 [Design and Construction Protocols];
    - (B) the circumstances described in Section 17.3 of Schedule 2 [Design and Construction Protocols];
    - (C) the circumstances described in Section 17.5 of Schedule 2 [Design and Construction Protocols]; or
    - (D) the circumstances described in the second paragraph of Section 18.11 of Schedule 2 [Design and Construction Protocols],

then with respect to each day (or portion of a day) of such delay the provisions set out in Section 11.1(b) of Schedule 2 [Design and Construction Protocols] will apply and the Contractor will only be entitled to the remedies set out in Section 11.1(b) of Schedule 2 [Design and Construction Protocols]; and

- (f) *Concurrent Causes of Delay*: notwithstanding the above, if for any day (or portion of a day) of the GSS/CC Interface Completion Delay there is more than one concurrent cause of delay, then the following will apply with respect to payments owing on account of such day (or portion of a day) of delay:
- (i) *Force Majeure Concurrent Cause of Delay*: if one of the concurrent causes of delay is an event of Force Majeure, then the provisions of Section 11.4 of Schedule 2 [Design and Construction Protocols] will govern and neither party will owe any payments to the other for such delay;
  - (ii) *Contractor Concurrent Cause of Delay*: if the Contractor, or a Person for whom the Contractor is in law responsible, has caused or contributed to one of the concurrent delays, then the Contractor will not be entitled to, nor will the Contractor make any claim for, reimbursement or payment for any costs suffered as a result of the delay, including for any Liquidated Damages;
  - (iii) *No Contractor Delay*: if neither the Contractor, nor any Person for whom the Contractor is in law responsible, has caused or contributed to the concurrent cause of delay, and:
    - (A) one of the concurrent causes of delay is an Interface Contractor, or a Person for whom the Interface Contractor is in law responsible, and the Contractor would,

but for the concurrency, have been entitled to be paid Liquidated Damages under Section 5.3(c) of this Appendix 4-8 [Interface Requirements]; and

- (B) another concurrent cause of delay is one or more of the events described in Section 5.3(e) of this Appendix 4-8 [Interface Requirements],

then the Contractor will be entitled to be paid Liquidated Damages under Section 5.3(c) of this Appendix 4-8 [Interface Requirements] and will not be entitled to, nor will the Contractor make any claim for, any of the remedies described in Section 5.3(e) of this Appendix 4-8 [Interface Requirements]; and

- (iv) *No Contractor and No Interface Contractor Delay:* if neither the Contractor, nor any Person for whom the Contractor is in law responsible, nor an Interface Contractor, nor any Person for whom an Interface Contractor is in law responsible, has caused or contributed to a concurrent cause of delay, and there are concurrent delays caused by one or more of the events described in Section 5.3(e) of this Appendix 4-8 [Interface Requirements], then the provisions set out in Section 11.1(b) of Schedule 2 [Design and Construction Protocols] will apply and the Contractor will only be entitled to the remedies set out in Section 11.1(b) of Schedule 2 [Design and Construction Protocols].

For the avoidance of doubt, if a concurrent cause of delay is caused or contributed to by the Contractor or an Interface Contractor (as applicable) but such Contractor or Interface Contractor (as applicable) is unable to cure its cause of delay because of another concurrent cause of delay that is one of the causes described in Section 5.3(e) of this Appendix 4-8 [Interface Requirements], then for any day (or portion of a day) when such Contractor or Interface Contractor (as applicable) is prevented from curing its cause of delay because of the concurrent Section 5.3(e) of this Appendix 4-8 [Interface Requirements] delay, such Contractor or Interface Contractor (as applicable) will be deemed not to be a cause of or contributor to a concurrent delay.

#### 5.4 Single Unit Substantial Completion Date Float

The date for each 'Unit Assembly Complete' Milestone and the related date for each 'Single Unit Substantial Completion' Milestone have been established so that at the commencement of the Work the Work Program and Schedule will include float between these two Milestones for each Unit. If, and to the extent, delays to the completion of an Interface occurs such that the date for a 'Unit Assembly Complete' Milestone is extended as provided by Section 5.2(b) or Section 5.3(b) of this Appendix 4-8 [Interface Requirements], then the date for completion of the related 'Single Unit Substantial Completion' Milestone will not be extended unless, and to the extent only, that an extension is required so the duration from the date that water is first introduced into such Unit through the connected penstock to the date for completion of the related 'Single Unit Substantial Completion' Milestone is no less than [REDACTED].

#### 5.5 Payment of Liquidated Damages Deferred

The payment of any amounts required to be paid by either party under Section 5 of Appendix 4-8 [Interface Requirements] will be deferred until such time as the Work is completed on a per-Unit basis, provided that the Contractor will keep a record of each delay described in Section 5 of Appendix 4-8 [Interface Requirements], and will make such records available to Hydro's Representative on request at any time and, in any event, every six months.

#### 5.6 Interface Milestone Liquidated Damages Report

Within two weeks after the earliest TG Interface, the Contractor will submit to Hydro's Representative a report describing the Liquidated Damages the Contractor will be entitled to claim under Section 5 of

Appendix 4-8 [Interface Requirements], including the basis for such claims. The Contractor will revise and re-submit such report no less frequently than every six months for the duration of the Work.



**SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT**

**EXHIBIT 4-8-2**

**WORK AREA HANDOVER FORM**

Date: \_\_\_\_\_  
(dd/mmm/yyyy)

Time: \_\_\_\_\_ Hours

Area Being Handed Over: \_\_\_\_\_

Contractor Handing Over: \_\_\_\_\_  
(To BC Hydro)

BCH Accepting Handover: BC Hydro

Contractor Accepting Handover: \_\_\_\_\_  
(From BC Hydro)

Handover Notes:

---

---

---

---

---

---

---

---

---

---

The Representatives signed below accept the current state of the area described above and agree that all deficiencies have been corrected to a level which allows the work to continue.

\_\_\_\_\_  
TG Contractor Representative Name:

\_\_\_\_\_  
GSS Contractor Representative Name:

\_\_\_\_\_  
BCH Representative (Witness only) Name: