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Schedule D1

Statement of Work

Part 1

Introduction

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D1.P1.1 Introduction

- 1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).
- 2 Unique definitions relevant to this document are:
 - Document Controller** or **DC** is defined in section 1 of the Articles of Agreement;
 - Lead Reviewer** means the individual with the Purchaser's organisation responsible for assessing each Data Item (Project Management Data Items will be assessed by the Purchaser's Supply Chain; Engineering Data Items will be assessed by the Purchaser's Engineering Department, etc...);
 - The Design Phase** is defined in section 5;
 - The Build Phase** is defined in section 5; and
 - Review Period** means the period of time indicated on the SDRL (Schedule D2 (SDRL)) in which the Purchaser will review and assess each Data Item.
- 3 This part of the SOW (i.e. Part 1 of Schedule D1 (SOW)) covers the 'Introduction'. Other Parts of the SOW cover 'Project Management' (Part 2); 'Engineering' (Part 3), 'ILS' (Part 4), 'QA' (Part 5), etc...
- 4 Each major section of the SOW is identified as follows: 'D1' means 'Schedule D1 of the Subcontract'; 'P' means 'Part' of the SOW (i.e. 1 to 13 - see below); and thereafter by section.
Example: 'D1.P7.1' means section 1 of Part 7 (Finance) of Schedule D1 (SOW) (i.e. section 1 of the Finance SOW).
- 5 The Project is divided into two phases, namely:
 - (a) Phase 1 – The Design Phase; and
 - (b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices)).
- 6 This SOW is divided into three sections, namely:
 - (a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase **and** the Build Phase (sections 1 to 49 reserved for this section);
 - (b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase **only** (sections 50 to 99 reserved for this section); and
 - (c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase **only** (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options by the Purchaser.

SECTION A - GENERAL

D1.P1.2 Scope

- 1 The Supplier shall perform all activities and Services necessary to manage, design, develop, construct, integrate, test, deliver, install, commission, trial, maintain and support the Equipment, Deliverable Software and the Data Item (collectively, the **Deliverables**) in accordance with the requirements of the Subcontract.

- 2 The Supplier shall ensure that the Deliverables meet the Technical Requirements.
- 3 The Supplier shall ensure that the Deliverables are delivered to the Purchaser on the Delivery Dates.
- 4 The Supplier shall maintain Compatibility of the Work throughout the period of performance.
- 5 There are thirteen (13) Parts of Schedule D1 (SOW), namely:

- Part 1 Introduction (this part) (Intro);
- Part 2 Project Management (PM);
- Part 3 Engineering (Eng);
- Part 4 Integrated Logistics Support (ILS);
- Part 5 Quality Assurance (QA);
- Part 6 Operations (OPS);
- Part 7 Commissioning, Test & Trials (COM);
- Part 8 Finance (FIN);
- Part 9 Security (SEC);
- Part 10 Health, Safety and the Environment (HSE);
- Part 11 Industrial and Regional Benefits (IRB);
- Part 12 Logistics (LOG); and
- Part 13 Information Technology / Information Management (IT IM).

D1.P1.3 Data Items

- 1 The Supplier shall prepare, deliver and maintain all Data Items in accordance with the Schedule D2 (SDRL), Schedule D3 (DIDs) and this Schedule D1 (SOW).
- 2 Where there are specific requirements for a Data Item in addition to, or different to those described in the DID, the Purchaser will identify these requirements in each Part of the SOW. The Supplier shall ensure that the Data Item is provided in accordance with these specific requirements.

Example:

D1.P2.x The Supplier shall prepare, deliver and maintain the PEP in accordance with SDRL PM250-1 and DID PM250, the latter amended as follows:

- (a) title changed from 'Project Execution Plan' to 'Project Execution Plan – The Design Phase';*
- (b) section 8 of DID PM250 is modified from 'level 4' to 'level 2'; and*
- (c) sections 11, 13, 20 and 24 of DID PM250 are deleted.*

D1.P1.4 General Requirements for Data Items

- 1 Data Item deliverable media:
 - (a) Subject to section D1.P1.6 (Use of Existing Data) and unless otherwise specified in a SOW or DID for the Data Item:

- (i) all soft copies ((**S**) in the SDRL table in Schedule D2 (SDRL)) of the Data Items shall be prepared and delivered in the latest version of Microsoft Office file formats with margins consistent with letter size paper (8.5" x 11"); and
- (ii) all hard copies ((**H**) in the SDRL table in Schedule D2 (SDRL)) of the Data Items shall be prepared and delivered on letter or ledger size paper (8.5" x 11" and 11" x 17" respectively).

2 Format Instructions:

- (a) subject to section D2.P1.6 (Use of Existing Data), and unless otherwise specified in the appropriate DID, the format instructions contained in this section shall be applied to all Data Items;
- (c) when a Data Item is delivered in the form of a document of more than five (5) pages, it shall contain a table of contents; and
- (d) when a Data Item is delivered in the form of a document, each page shall contain a unique page number and display the document number, version, volume number, and date of issue, as applicable, on each page.

D2.P1.5 Content Instructions

- 1 Where a draft version of a Data item is scheduled for delivery prior to assessment of a final version, the Supplier shall comply with the following requirements:
 - (a) the draft version shall contain information on all of the topics pertinent to the Data Item;
 - (b) the extent of coverage of the topics in the draft version shall be commensurate with the status of the design, development or installation of the Equipment, Deliverable Software or performance of the Service at the time the Data Item is due for delivery; and
 - (c) the draft version shall be developed to the stage where it reflects the content of the final version of the document.
- 2 Where information specified for one Data Item has also been specified for another Data Item in the same format and at the same issue status, the Supplier may provide the information in one Data Item only, but must include cross-reference to the other Data Item.
- 3 The Supplier shall ensure that all Data Items provided to the Purchaser are written in grammatically correct English.

D2.P1.6 Use of Existing Data

Data required under the Subcontract may currently exist in a different format or use a different content structure than that specified in the DID. In such cases, the Data Item may be acceptable providing that it contains the specified information and meets the requirement for its intended use. Where the Supplier wishes to submit existing Data that does not meet the format or content structure requirements contained in the SOW and/or DID, then the Supplier shall seek written approval from the Subcontract Authority to submit the existing Data, in sufficient time for the Data to be reformatted or restructured prior to the required Delivery Date should the request for approval be denied.

D1.P1.7 Data Item Cover Sheet

The Supplier shall attach a Cover Sheet to each Data Item delivered in accordance with the Schedule D2 (SDRL). The purpose of the Cover Sheet is described in Part 13 (IT/IM) of Schedule D1 (SOW) and a template is provided in Attachment A to Part 13 (IT/IM) of the SOW.

D1.P1.8 Data Item Review

- 1 Upon receipt and review of a Data Item, the Subcontract Authority, or delegate, may provide the Supplier with such comment, information or advice as he/she considers appropriate to provide. Any comment, information or advice provided:
 - (a) is intended to be of assistance to the Supplier and shall not be construed as a direction or instruction from the Subcontract Authority to the Supplier;
 - (b) shall not be taken as 'approval' or 'acceptance' of the Data Item or any Work;
 - (c) shall not waive any provisions of, or release the Supplier from its obligations under the Subcontract; and
 - (d) shall be addressed by the Supplier in accordance with this SOW.

D1.P1.9 Assessment of Data Items

- 1 Upon receipt of each Data Item, the Purchaser's Lead Reviewer will, within the Review Period, review, assess and advise the Subcontract Authority whether the Data Item 'conforms to the requirements of the Subcontract' or 'does not conform to the requirements of the Subcontract'. The Subcontract Authority will then advise the Supplier in writing.
- 2 If, upon assessment, the Subcontract Authority advises the Supplier that the Data item conforms to the requirements of the Subcontract, then the Data Item and the task comprising the development of that Data Item shall be deemed to be achieved (subject to revision and update (i.e. 'maintenance') as required by the SDRL Table (see Schedule D2 (SDRL)) and the Supplier's Compatibility of the Work obligation.
- 3 If, upon assessment, the Subcontract Authority advises the Supplier in writing that the Data Item does not conform to the requirements of the Subcontract, then the Subcontract Authority will provide reasons for the non-conformance and may provide details of any corrective action to be taken by the Supplier before the Data Item will be assessed favourably (the reasons for non-conformance will come from the Purchaser's Lead Reviewer).
- 4 The Lead Reviewer's reasons for assessing a Data Item as non-conforming to the requirements of the Subcontract will be limited to the context of any or all of the following criteria:
 - (a) in the judgement of the Lead Reviewer, acting reasonably, the Data Item submitted by the Supplier is not clearly understandable;
 - (b) in the judgement of the Lead Reviewer, acting reasonably, the Data Item submitted by the Supplier does not provide adequate detail;
 - (c) in the judgement of the Lead Reviewer, acting reasonably, the Data Item submitted by the Supplier is inconsistent with the Subcontract;
 - (d) in the judgement of the Lead Reviewer, acting reasonably, the Data Item submitted by the Supplier is inconsistent with the Subcontract with other submitted Data Items (i.e. it fails to comply with the Compatibility of Work obligation); and
 - (e) in the judgement of the Lead Reviewer, acting reasonably, the Data Item submitted by the Supplier will not meet the objective of the SOW and associated DID.
- 5 The Lead Reviewer may not withhold a favourable assessment of a Data Item for minor omissions or errors in the Data Item. In addition to the criteria detailed in section 4, any subsequent favourable assessment of an update to a

Data Item that was previously favourably assessed with minor omissions or errors shall be subject to the Supplier addressing those identified minor omissions or errors in the proposed update to the reasonable satisfaction of the Lead Reviewer.

- 6 If the assessment is unfavourable, the Data Item shall not be considered to have been submitted or delivered and the Data Item shall be Rectified at no additional cost to the Purchaser. **NOTE:** non-conforming Data Items will affect entitlement to payment and/or quantum of payment (see Schedule A (General Conditions)).
- 7 When the Subcontract Authority provides the Supplier with advice of non-conformance in accordance with section 3, the Supplier shall, within a period equal to the Review Period, re-submit the rectified Data Item for re-assessment.
- 8 If, within the time specified under section 7, the Supplier submits the Rectified Data Item conforming to the requirements of the Subcontract, the Lead Reviewer shall be entitled to exercise the rights provided in this section D1.P1.9 as if the Data Item had been submitted by the Supplier for the first time.
- 9 If the Subcontract Authority fails to advise the Supplier in writing as to the assessment of the Data Item under section 1 within the Review Period specified in the SDRL Table, then the Data Item will be deemed to conform to the requirements of the Subcontract. Re-submission of Data Items previously assessed as non-conforming will be assessed as soon as practicable, but not necessarily within the Review Period.
- 10 An assessment of a Data Item conforming to the requirements of the Subcontract shall:
 - (a) be construed as no more than an indication that the Data Item appears to the Lead Reviewer to be capable of being used as a basis for further work;
 - (b) not be construed as limiting the Supplier's responsibility to provide the Deliverables or support in accordance with the requirements of the Subcontract; and
 - (c) not be construed as a waiver of any right under the Subcontract or any cause of action arising out of any act or omission of the Supplier or its directors, officers, employees, agents and lower tier suppliers.

D1.P1.10 Point of Delivery

The Supplier shall deliver the Data Items to the location indicated in the SDRL Table (see Schedule D2 (SDRL)).

D.P1.11 Data Items Delivered Under Subcontract Change Orders

Where the SOW or the SDRL Table provides that a Data Item is to be submitted via a Change Order, the Supplier shall deliver the Data Item in accordance with section 11.5 of Schedule A (General Conditions).

D1.P1.12 Data Item Updates

- 1 The Supplier shall maintain the accuracy, completeness and currency of all delivered Data Items in accordance with Schedule D2 (SDRL) and the Compatibility of Work obligation.
- 2 A proposed amendment to any Data Item shall be subject to the same review and assessment processes specified in section D1.P1.8 and section D1.P1.9 to the extent of the effect of the proposed amendment.
- 3 Until a proposed amendment to an earlier favourably assessed Data Item is assessed, the original Data Item shall remain in effect.

- 4 The Supplier shall be liable for all costs associated with Data Item maintenance as indicated in the SDRL Table, except in those circumstances where the need for maintenance is generated by some action for which the Purchaser has agreed, in writing, that it accepts responsibility.
- 5 In the event that the Supplier is required to re-submit any Data Item, the Supplier shall (with the exception of a schedule prepared in 'Microsoft Project') clearly record in the amendment record each and every amendment, variation, modification, addition or deletion from the version previously submitted to the Purchaser and each and every change so recorded shall be clearly marked by a side bar in the amended text, drawing, diagram or graphic of the Data Item so that the reader can readily determine, by viewing the side bars alone, amendments to the previously delivered Data Item linked to the version number.
- 6 In the event the Supplier is required to re-submit any Data Item that includes, as a part thereof, a schedule prepared in 'Microsoft Project' or equivalent, or a spreadsheet prepared in 'Microsoft Excel' or equivalent, the Supplier shall show all changes against the original baseline and all subsequent issues, if any. i.e. the original baseline must always be visible throughout the period of performance.
- 7 Where the authoring software of the Data Item is not able to produce revision marks, the Supplier shall accompany those affected Data Item with revision lists containing a summary of all changes made since the previous submission to the Purchaser.
- 8 If the SDRL Table provides that a Data Item, once assessed to be in conformance to the requirements of the Subcontract is not to be delivered again (i.e. it is a final delivery), and if, pursuant to the operation of section 1, it becomes necessary for the Supplier to up-issue and re-submit the Data Item after the final delivery, then, in such circumstances, the Supplier shall submit the up-issued Data Item through a Change Order Request (see Part 2 (Project Management of Schedule D1 (SOW)) and may be liable for Damages as a consequence if the Purchaser has relied upon the contents of the earlier submitted Data Item to its detriment.

Worked example:

Item #	SDRL ID #	DID ID #	Data Item Title	SOW Ref	Review Period	Freq	First Delivery	Subsequent Delivery	Media/Qty		PoD	Purchaser's Ref #	Remarks
									xH	S			
SECTION A - GENERAL													
1 -49.	Reserved	-	-	-	-	-	-	-	-	-	-	-	-
SECTION B – THE DESIGN PHASE													
50	E001	E001	Level 0 Design Guidance Data	D1.P3.x	30	0	1MEDS	-	1H	S	DC	VSY-[*]	-
51	E002	E002	Level 1 Design Guidance Data	D1.P3.x	30	0	2MEDS	-	1H	S	DC	VSY-[*]	-
52	E003	E003	Level 2 Design Guidance Data	D1.P3.x	30	-	3MEDS	-	1H	S	DC	VSY-[*]	-

Design Guidance Data for the Equipment is delivered by the Supplier on three (3) separate Delivery Dates: each subsequent delivered Data Item containing Data and information more accurate than its predecessor (i.e. Level 0 Design Guidance Data being 95% accurate; Level 1 Design Guidance Data being 99% accurate; and finally, Level 2

Design Guidance Data being 100% accurate). Once the Level 2 Design Guidance Data has been assessed to be 'in conformance to the requirements of the Subcontract', any subsequent change to that Data Item (i.e. to the Level 2 Design Guidance Data) can only be accomplished through the submission of a Change Order. In such circumstances, the Supplier may be liable for Damages in the event that the revised Level 2 Design Guidance Data causes re-work to be undertaken by the Purchaser and/or by other suppliers to the Purchaser (see Schedule A (General Conditions)).

D1.P1.13 Actioning of Data Items

- 1 The Supplier acknowledges and agrees that:
 - (a) the timeframes for the delivery of the Data Items by the Supplier and the actioning of those Data Items by the Purchaser within the Review Period have been determined in light of the number of personnel within the Purchaser's team available to action the Data Items delivered by the Supplier;
 - (b) the Purchaser's obligations to action the Data Items within the timeframes described in the SDRL is subject to the Supplier delivering the Data Items on the contracted Delivery Dates set out in Schedule D2 (SDRL); and
 - (c) any delay of the Supplier in meeting its obligations under the Subcontract may result in the Purchaser not being able to action the Data Items within the Review Period set out in Schedule D2 (SDRL).

- 2 If at any time the Supplier's submission of one or more Data Items changes because of a delay in the Supplier meeting its obligations under the Subcontract, the Purchaser shall:
 - (a) use reasonable commercial endeavours to action the Data Items within the Review Periods set out in the Schedule D2 (SDRL); and
 - (b) is only required to action Data Items submitted by the Supplier at the time the Purchaser's resources become available to assess the Data Items.

- 3 The Purchaser's inability to action the Data Items within the Review Periods set out in Schedule D2 (SDRL) in the circumstances described in section 2 is not an event permitting any Claim for excusable delay, or similar or equivalent remedies.

D1.P1.14 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P1.50 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P1.100 Reserved

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SOW	Supply Chain	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 2

Project Management

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D1.P2.1 Introduction

- 1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).
- 2 Unique definitions relevant to this document are:

Change Order Request is defined in section D1.P2. 18;
EVMS means earned value management system;
Progress Report is defined in section D1.P2.24;
Project Review is defined in section D1.P2.18;
SMS means Subcontract Master Schedule; and
WBS means Work Breakdown Structure.
- 3 The Project is divided into two phases, namely:
 - (a) Phase 1 – The Design Phase; and
 - (b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices))).
- 4 This SOW is divided into three sections, namely:
 - (a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);
 - (b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and
 - (c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A – GENERAL

D1.P2.2 Project Management

The Supplier shall provide overall management and technical direction, including but not limited to: (a) project planning; (b) management control and reporting; (c) quality management (d) schedule management and control; (e) configuration management and control; (f) data control; (g) coordination, reporting and administration to ensure the requirements of this Subcontract are achieved on time and to quality. The project management and control systems employed by the Supplier shall be sufficient to provide the Purchaser with in-depth, accurate and timely visibility into the Supplier's design, development, manufacturing, supply and support activities, together with achievement of its Industrial and Regional Benefits obligations, against the Supplier's SMS.

D1.P2.3 Representative of the Supplier

- 1 The Representative of the Supplier (see Appendix E of the Articles of Agreement) shall be responsible for ensuring the Supplier complies with the requirements of the Subcontract. The Purchaser's Subcontract Authority shall have unimpeded access to the Supplier's company management for assistance in solving problems requiring their intervention. The Representative of the Supplier shall ensure that the personnel, facilities and financial resources necessary for the timely performance of the Work are assigned and made available at the time and places necessary to achieve the Supplier's Level 1 Schedule (Schedule F) and the Supplier's SMS. The responsibilities include, but are not limited to, the following:
- (a) function as the day-to-day point of contact for the Subcontract Authority;
 - (b) organise and define internal responsibilities;
 - (c) monitor and control Supplier performance;
 - (d) assure Project Milestones are met;
 - (e) assure technical and ILS requirements are met;
 - (f) assure compliant Deliverables are delivered on the Delivery Dates;
 - (g) assure the IRB obligations are satisfied;
 - (h) assure compliance with the quality requirements relating to the Deliverables;
 - (i) assure Project control and schedule;
 - (j) conduct Project Reviews with the Purchaser;
 - (k) ensure metrics are collected and reported;
 - (l) report progress on a periodic basis;
 - (m) ensure risks are identified and appropriate actions to avoid or mitigate are taken; and
 - (n) ensure opportunity and continuing improvement activities are identified and appropriate actions taken to realise them.

D1.P2.4 Change to Representative of the Supplier

In the event the identity or contact details of the Representative of the Supplier changes, the Supplier shall advise the Purchaser in writing (see Appendix E of the Articles of Agreement). This is not a change, amendment or variation of the Subcontract within the meaning of Section F (Amendments and Pricing) of Schedule A (General Conditions).

D1.P2.5 Correspondence

- 1 Emails

The 'SUBJECT' line of each email shall state in the following sequence:

<name of Project> - <name of supplier> - <description of the Equipment/System> - <SWBS #> - <title of the issue>

Example:

"XYZ Project - ABC Ltd - Main Engines - 1234 – Choice of Materials"

2 Addressees

- (a) for matters relating to the Purchaser's Authorities, see Appendix E of the Articles of Agreement (i.e. if the subject matter is 'quality assurance', then the Supplier may communicate directly with the Purchaser's QA Authority; if the subject matter is 'technical', then the Supplier may communicate directly with the Purchaser's Technical Authority; etc...);
- (b) notwithstanding section 2(a), the Supplier may communicate directly with the Purchaser's Subcontract Authority regarding any matter; and
- (c) a copy of each email sent pursuant to section 2(a) to the Purchaser's Authorities other than the Subcontract Authority, shall be copied to the Subcontract Authority.

3 Data Items

- (a) All Data Items shall be prepared and delivered in accordance with the Part 2 (Project Management) of Schedule D2 (SDRL).
- (b) In the event the Supplier requires any clarification or guidance with respect to the preparation of a Data Item, the Supplier shall consult with the appropriate Purchaser's Authority (see Appendix E of the Articles of Agreement), prior to delivering the Data Item.

D1.P2.6 Parent Company Guarantee

The Supplier shall prepare and deliver a Parent Company Guarantee in accordance with SDRL PM201 and DID PM201.

D1.P2.7 Proof of Insurance

The Supplier shall prepare and deliver an Insurance Certificate in accordance with SDRL PM202 and DID PM202 evidencing the insurance required under the Subcontract is in place.

D1.P2.8 Ambiguities, Inconsistencies or Conflicts Advice

- 1 In the event the Supplier finds or reasonably believes it has found any discrepancy, error, ambiguity, inconsistency or omission in the Subcontract or any other information or Data given or made available to the Supplier by the Purchaser or a Third Party Beneficiary, the Supplier shall prepare and deliver an Ambiguities, Inconsistencies or Conflicts Advice in accordance with SDRL PM203 and DID PM203 setting out in sufficient detail such discrepancy, error, ambiguity, inconsistency or omission to enable the Purchaser to take whatever corrective action, if any, the Purchaser considers appropriate.
- 2 Upon receipt and review of an Ambiguities, Inconsistencies or Conflicts Advice, the Purchaser will advise the Supplier, in writing, of any action which the Purchaser requires the Supplier to take in order to resolve the ambiguity, inconsistency or conflict and the Supplier shall comply with such instructions. In the event that the Supplier does not agree with the advice, section 32.0 (Subcontract Disputes) of Schedule A (General Conditions) shall apply.

D1.P2.9 Direction or Instruction

- 1 The Supplier shall advise the Purchaser of any direction or instruction given by any individual, other than the Subcontract Authority, who the Supplier believes will result in an unauthorised modification to the Work. In such circumstances, the Supplier shall prepare and deliver a Direction or Instruction Advice in accordance with SDRL PM204 and DID PM204.

- 2 Upon review of the Direction or Instruction Advice prepared and delivered in accordance with section 1, the Purchaser will provide written instructions to the Supplier. In the interim, the Supplier shall not comply with any direction or instruction given by any individual other than the Subcontract Authority. In the event that the Supplier does not agree with the written instructions, section 32.0 (Subcontract Disputes) of Schedule A (General Conditions) shall apply.

D1.P2.10 PFX and CFX

- 1 All PFX and CFX required by the Supplier to perform the Work shall be listed in section B of Appendix F (Supplier's Requirements) of the Articles of Agreement. Upon receipt of any PFX and/or CFX, the Supplier shall, within thirty (30) calendar days of receipt, undertake detailed inspection and testing in order to ensure that the PFX and/or CFX is not defective or deficient and meets the Supplier's requirements.
- 2 In the event any Issued Property is found to be defective or deficient upon inspection and testing as described in section 1, the Supplier shall prepare and deliver a Non-Compliant PFX and CFX Advice in accordance with SDRL PM205 and DID PM205.
- 3 In the event the Supplier identifies additional requirements for PFX and/or CFX to that listed in section B of Appendix F (Supplier's Requirements) of the Articles of Agreement, it shall prepare and deliver a Change Order Request in accordance with SDRL PM270 and DID PM270.

D1.P2.11 Obsolescence Advice

If during the period of performance, the Supplier becomes aware that any Equipment, System or Deliverable Software may or will be become obsolete, it shall prepare and deliver an Obsolescence Advice in accordance with SDRL PM206 and DID PM206.

D1.P2.12 Discontinuance Advice

If during the period of performance, the Supplier becomes aware that any Equipment, System or Deliverable Software not of its own design and/or manufacture, but which forms part of the Deliverables may or will be discontinued, or if the Supplier desires to discontinue the availability of any Equipment, System or Deliverable Software of its own design and/or manufacture, it shall prepare and deliver a Discontinuance Advice in accordance with SDRL PM207 and DID PM207.

D1.P2.13 Hold, Witness and Review Point Advice

The Supplier shall advise the Purchaser of any Hold, Witness and Review Point as described in Part 5 (Quality Assurance) of Schedule D1 (SOW), in accordance with SDRL PM208 and DID PM208.

D1.P2.14 Objection Advice

In the event the Supplier objects to a Non Conformance Report or a Warranty Defect Report, it shall prepare and deliver an Objection Advice in accordance with SDRL PM210 and DID PM210.

D1.P2.15 Red Flag Reports

In the event the Supplier knows it has, or believes it will fail to achieve the delivery or performance of a Deliverable to a Delivery Date, it shall prepare and deliver a Red Flag Report in accordance with SDRL PM230 and DID PM230.

D1.P2.16 Recovery Plan

In the event the Supplier fails to achieve the delivery or performance of a Deliverable to the Delivery Date, it shall prepare and deliver a Recovery Plan in accordance with SDRL PM231 and DID PM231.

D1.P2.17 Attendance on Site, a Ship and/or Government Establishments

- 1 From time to time the Supplier may, or is required to, attend the Purchaser's Premises or a Ship.
- 3 The Supplier shall, when attending the Purchaser's Premises or a Ship, report to the Purchaser's 'host'.
- 4 The Supplier shall maintain throughout the period of performance detailed records of its employees, suppliers, consultants, representatives and/or agents attending the Purchaser's Premises or a Ship for the purpose of performing the Work. These records must be reported in the Progress Reports.
- 5 The Supplier shall comply with the requirements of Part 7 (Security) of Schedule D1 (SOW) prior to arriving at the Purchaser's Premises or a Ship.

D1.P2.18 Change Order Request

- 1 The Subcontract cannot be amended, varied, modified or changed in the absence of an authorised Change Order.
- 2 The Supplier shall prepare and deliver Change Order Requests in accordance with SDRL PM270 and DID PM270.

D1.P2.19 Referenced Document Request

If the Supplier requires the Purchaser to supply any document that is referenced in the Subcontract, but is not otherwise available in the public domain, the Supplier shall prepare and deliver a Referenced Document Request in accordance with SDRL PM271 and DID PM271.

D1.P2.20 Configuration Management

- 1 The Supplier shall conduct configuration management of all Deliverables delivered, or to be delivered, under the Subcontract so as to maintain Compatibility of Work throughout the period or performance.
- 2 In the event that the Work includes Software development, the Supplier must establish and implement a documented 'Configuration Management' procedure using US Mil-Std-498 for Software as guidance (or equivalent national standard).
- 3 The Supplier shall prepare and deliver a Configuration Management Plan in accordance with SDRL PM256 and DID PM256 with the following amendments:
 - (a) add the following section to section 2:

insert

D1.P2.21 Minutes

The Supplier shall prepare and deliver Minutes of all Meetings between the Parties in accordance with SDRL PM272 and PM272.

D1.P2.22 Action Item and Issue Tracking

- 1 The Supplier shall record all Action Items and issues arising from all Meetings on an Action Item and Issues spreadsheet or Access database.
- 2 The Supplier shall prepare, populate, maintain and deliver the Action Item and Issue Status Report in accordance with SDRL PM273 and DID PM273.
- 3 An Action Item or issue may only be 'closed' by the individual, successor or delegate who originally raised the Action Item or issue.

D1.P2.23 Intellectual Property

The Supplier shall prepare, deliver and maintain an Intellectual Property Management Plan in accordance with SDRL PM255 and DID PM255.

D1.P2.24 Progress Reporting

The Supplier shall report progress of the Work against the SMS.

(a) Status Reports

The Status Report is in a pro forma format so as to permit consistency from report to report. The Supplier shall prepare and deliver Status Reports in accordance with SDRL PM260 and DID PM260.

(b) Progress Reports

The Progress Report is in a *pro forma* format so as to permit consistency from report to report and ease of reference (although the Supplier should add any additional sections to the end of the *pro forma* Progress Report as considered necessary). The Supplier shall support the sections in the Progress Report with its own in-house produced management information and Data. The Supplier shall prepare and deliver Progress Reports in accordance with SDRL PM261 and DID PM261.

(c) Project Reviews

(i) The Supplier shall conduct one (1) hour weekly telephone or video conference calls with the Purchaser to answer and/or clarify matters arising from Data Items delivered under the Subcontract. The calls shall commence two (2) weeks after the delivery of the first Data Item and end three (3) month following delivery of the last Data Item (the Subcontract Manager may suspend and/or re-instate calls at any time by advising the Supplier in writing).

(ii) The Supplier shall conduct two (2) hour Project Reviews in the form of presentations prepared and delivered in accordance with SDRL PM262 and DID PM262. At a minimum, each Project Review shall cover all items in the weekly calls described in section (b)(i) and matters covered in the Progress Reports. Problem areas and issues shall be summarised, including a schedule or performance impact summary and a discussion of the corrective actions or recovery plans required.

(iii) Project Reviews shall be held throughout the period of performance via videoconference or teleconference (the Subcontract Manager may suspend and/or re-instate the Project Reviews at any time by advising the Supplier in writing).

(iv) Project Reviews shall be chaired by the Purchaser.

D1.P2.25 Kick Off Meetings

The Supplier shall attend a 'Kick-Off Meeting' at the Purchaser's premises within fifteen (15) Working Days following EDS and the exercise of each Option.

D1.P2.26 Travel Plan

- 1 The Supplier shall prepare a Travel Plan in accordance with SDRL PM280 and DID PM280 (see Section B of Schedule G2 (Price Itemization, Charge Out Rates and Option Prices).
- 2 The Purchaser will review the Travel Plan with the Customer and, following any required clarifications and explanations, return the Travel Plan to the Supplier who will then submit it as an attachment to a Change Order Request for approval.

D1.P2.27 Issued Property

In the event the Supplier requires Issued Property in addition to that listed in Section A of Appendix F of the Articles of Agreement, it shall prepare and deliver an Issued Property Request in accordance with SDRL PM281 and DID PM281.

D1.P2.28 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P2.50 Project Schedule and Supporting Documents – The Design Phase

- 1 Project Execution Plan – The Design Phase

The Supplier shall develop an event based Project Execution Plan (**PEP**) for The Design Phase. The PEP shall define the Supplier's Project events, accomplishments required to complete the events and the criteria for determining that the accomplishments are complete. The Supplier shall prepare and deliver the PEP in accordance with SDRL PM250-1 and DID PM250, the latter amended as follows:

- (a) title changed from 'Project Execution Plan' to 'Project Execution Plan – The Design Phase';
- (b) section 8 of DID PM250 is modified from 'level 4' to 'level 2'; and
- (c) sections 11, 13, 20 and 24 of DID PM250 are deleted.

- 2 Subcontract Master Schedule (**SMS**) – The Design Phase

- (a) The Supplier shall develop an end-to-end, comprehensive, event based, resourced SMS that supports the PEP. Performance against the SMS shall be included in the Progress Reports and discussed at the Project Reviews. The Supplier shall prepare and deliver the SMS in accordance with SDRL PM251-1 and DID PM251, the latter amended as follows:

- (i) title changed from Subcontract Master Schedule to 'Subcontract Master Schedule – The Design Phase'.

- (b) The Supplier may amend the SMS, without first obtaining the Purchaser's approval through a Change Order Request (see section D1.P2.18), as long as:

- (i) the Supplier's Level 1 Schedule (Schedule F of the Subcontract) is not affected;
- (ii) the scheduled Delivery Dates for the Deliverables are not affected; and

- (iii) the ability of the Purchaser to meet its obligations under the Subcontract is not affected.

D1.P2.51 Risk Management

1 Risk Management

- (a) The Supplier shall develop a Risk Management Plan describing the overall risk management approach. The Supplier shall perform on-going risk management that:
 - (i) identifies all technical, program, commercial, IRB, cost and schedule risks;
 - (ii) identifies risks related to non-achievement of legal and IRB obligations;
 - (iii) demonstrates how risks will be mitigated; and
 - (iv) monitors, assesses and report the mitigation and impacts of these risks.
- (b) The Supplier shall report on risks, impacts and risk mitigation in Status Reports (if called for), Progress Reports and Project Reviews.
- (c) The Supplier shall prepare, deliver and maintain a Risk Management Plan in accordance with SDRL PM257-1 and DID PM257
- (d) The Supplier shall prepare, deliver and maintain a Risk Register in accordance with SDRL PM258-1 and DID PM258.

D1.P2.52 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P2.100 Project Schedule and Supporting Documents – The Build Phase

1 Project Execution Plan – The Build Phase

The Supplier shall develop an event based Project Execution Plan (**PEP**) for The Build Phase. The PEP shall define the Supplier's Project events, accomplishments required to complete the events and the criteria for determining that the accomplishments are complete. The Supplier shall prepare and deliver the PEP in accordance with SDRL PM250-2 and DID PM250, the latter amended as follows:

- (a) title changed from 'Project Execution Plan' to 'Project Execution Plan – The Build Phase'.

2 Subcontract Master Schedule (**SMS**) – The Build Phase

The Supplier shall develop an end-to-end, comprehensive, event based, resourced SMS that supports the PEP. The SMS shall be organised by PEP event, significant accomplishments and accomplishment criteria, with supporting tasks contributing to the accomplishment criteria. The SMS shall provide full traceability to the Supplier's WBS and PEP and shall be resource loaded showing the baseline effort in hours. Milestones shall be established for key internal and external deliverables to provide for comprehensive forward planning and objective hard point measurement of 'time now' status against the SMS. SMS tasks may be sub-divided into sub-tasks to facilitate Earned Value Management. The Supplier shall status the SMS through Status Reports (if called for), Progress Reports and Project Reviews with actual progress including actual start dates, physical percent complete, actual finish dates, as well as estimated start/finish dates and latest assessment of the Estimate at Completion (**EAC**). The SMS shall include proper network logic to enable critical path analysis, using primarily 'Finish-to-Start' relationships

and minimal use of date constraints. Critical path(s) shall be identified and monitored as a key element of the SMS. The Supplier shall collaborate with the Purchaser through Project Reviews to prepare schedule health assessments and incorporate recovery plans for schedule performance issues, as appropriate, to achieve Project schedule Milestones. The Supplier shall also update and submit the SMS with any approved baseline changes as required. The Supplier shall prepare and deliver the SMS in accordance with SDRL PM251-2 and DID PM251, the latter amended as follows:

- (a) title changed from 'Subcontract Master Schedule' to 'Subcontract Master Schedule – The Build Phase'.

3 Work Breakdown Structure (**WBS**)

- (a) The Supplier shall establish and maintain a WBS and WBS dictionary covering the Work. In preparing the WBS, the Supplier shall use for guidance the Purchaser's Project level SWBS (if provided) to identify lower Supplier WBS levels for cost collection. Further, the Supplier shall report schedule and cost collection data that maps to the Supplier's WBS and the Purchaser's Project level SWBS. The Supplier shall work with the Purchaser to mutually establish WBS integration between the Supplier's WBS and the Purchaser's Project level SWBS.
- (b) The budget for all Supplier activities shall be subdivided according to the Supplier's WBS. The Purchaser shall be able to identify variances and supporting Data through the Supplier's SMS. All Work within control accounts shall be divided into work packages and/or planning packages. An objective earned value method shall be assigned for each work package/planning package. The Supplier shall establish a management reserve and maintain a log documenting all changes to the management reserve and the Performance Measurement Baseline (**PMB**).

2 Staffing Profile

The Supplier shall provide a staffing profile that presents the planned month-by-month allocation of resources throughout the period of performance. It shall clearly show the quantities for each labour category/type planned per month to achieve the schedule as recorded in the SMS (the labour categories shall reflect those set out in section B of Schedule G2 (Price Itemisation, Charge Out Rates and Option Prices). The Supplier shall report actual staffing, as compared to the planned staffing set out in the SMS plan, through the Status Reports (if called for), Progress Reports and Project Reviews.

3 Risk Management

- (e) The Supplier shall develop a Risk Management Plan describing the overall risk management approach. The Supplier shall perform on-going risk management that:
 - (v) identifies all technical, program, commercial, IRB, cost and schedule risks;
 - (vi) identifies risks related to non-achievement of legal and IRB obligations;
 - (vii) demonstrates how risks will be mitigated; and
 - (viii) monitors, assesses and report the mitigation and impacts of these risks.
- (f) The Supplier shall report on risks, impacts and risk mitigation in Status Reports (if called for), Progress Reports and Project Reviews.
- (g) The Supplier shall prepare, deliver and maintain a Risk Management Plan in accordance with SDRL PM257-2 and DID PM257

- (h) The Supplier shall prepare, deliver and maintain a Risk Register in accordance with SDRL PM258-2 and DID PM258.

D1.P2.101 Attendance on Site, a Ship and/or Government Establishments

- 1 From time to time the Supplier may, or is required to, attend the Purchaser's Premises, a Ship and/or a Government establishment in order to perform the Work. For example:
 - (a) to fulfil the requirements of the Subcontract (e.g. Project Reviews; Defect Rectification; Repair and Maintenance of the Equipment; modification of the Equipment; setting to work; commissioning, HATs, SATs, etc...); or
 - (b) in support to the testing and trialling of various systems and sub-systems supplied by third parties at the agreed Charge Out Rates set out in section B of Schedule G2 (Price Itemisation, Charge Out Rates and Option Prices) (e.g. HATs; SATs; demonstrations at sea; etc....).
- 2 In the event the Supplier must attend the Purchaser's Premises or the Ship for an Acceptance Event, the Purchaser will issue the following Call-Off Instructions (**COI**) by email addressed to the Representative of the Supplier:
 - (a) 1st COI ninety (90) calendar days in advance of the event indicating a fourteen (14) calendar day window for the commencement of the Work;
 - (b) 2nd COI thirty (30) calendar days in advance of the event indicating a seven (7) calendar day window for the commencement of the Work; and
 - (c) 3rd COI five (5) calendar days in advance of the event indicating a firm date and time.
- 3 The first COI will describe the required work scope, time, date, venue and name of the 'host'. The Supplier shall acknowledge attendance by return email in each case or, if unable to attend, provide alternative dates to the Subcontract Authority within five (5) Working Days of receipt of the email.
- 4 The Supplier shall, when attending the Purchaser's Premises, a Ship and/or Government establishment report to the Purchaser's or the Government's 'host' prior to commencing any Work.
- 5 In the event that the Supplier attends in response to and in accordance with a COI, and in the event the Supplier is denied access to the work face, or is otherwise unable to undertake the Work described in the COI due to the actions or inactions of the Purchaser or the actions and/or inactions of other suppliers to the Purchaser, the Supplier shall prepare and deliver a Denial of Access Advice in accordance with SDRL PM209 and DID PM209.
- 6 In the event that the Supplier wishes to attend the Purchaser's Premises, a Ship or a Government establishment other than in accordance with a COI, the Supplier shall advise the Subcontract Authority by email at least ten (10) Working Days prior to attendance and the Subcontract Authority will acknowledge the request and confirmation of the date and time by return email. The Supplier shall comply with the requirements of Part 7 (Security) of Schedule D1 (SOW) prior to arriving at the Purchaser's Premises or a Ship.
- 7 The Supplier shall maintain throughout the period of performance detailed records of its employees, suppliers, consultants, representatives and/or agents attending the Purchaser's Premises, a Ship or Government establishment (if related to the Project) and the purpose of the attendance (e.g. who, when, duration, purpose, venue and host). These records must be reported in the Progress Reports.

D1.P2.102 Call Off Instructions for the Equipment

The Supplier shall deliver Shipsets of Equipment and Spares (i.e. one (1) consignment for each Shipset) in accordance with a written COI issued by the Subcontract Authority within the Call-Off Instruction Period. The SPT, if any, shall be delivered with the last Shipset.

D1.P2.103 Defect and Warranty Management Plan

The Supplier shall prepare, deliver and maintain a Defect and Warranty Management Plan in accordance with SDRL PM259 and DID PM259.

Document Identifier	Number: [* insert VSY Document #]				Rev: 1
Title:	Engineering SOW			Ship applicability:	All
Document Owner:	[* insert name]	Document Approver:	[* insert name]		
Master Template Ref:	Schedule D1 Part 3 (Engineering) SOW			Project:	[*insert name]
Type	Organisation	Area	Supplier	VSY Supplier Code	SWBS
SOW	Engineering	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 3

Engineering

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D1.P3.1 Introduction

- 1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).
- 2 Unique definitions relevant to this document are:

[*].
- 3 The Project is divided into two phases, namely:
 - (a) Phase 1 – The Design Phase; and
 - (b) Phase 2 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemisation, Charge Out Rates and Options))).
- 4 This SOW is divided into three sections, namely:
 - (a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);
 - (b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and
 - (c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A - GENERAL

D1.P3.2 General

The

D1.P3.3 [*]

- 1 [*]

D1.P3.4 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P3.50 None.

D1.P3.51 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P3.100 Name Plates

- 1 A nameplate shall be fitted to each piece of Equipment in a position where it is clearly visible, preferably when mounted. The nameplate shall incorporate identification marking in accordance with [*].

D1.P3.101 Compartment Drawings

1 Comment upon

D1.P3.102

Document Identifier	Number: [* insert VSY Document #]			Rev:	1
Title:	Engineering SOW			Ship applicability:	All
Document Owner:	[* insert name]	Document Approver:	[* insert name]		
Master Template Ref:	Schedule D1 Part 3 (Engineering) SOW			Project:	[*insert name]
Type	Organisation	Area	Supplier	VSY Supplier Code	SWBS
SOW	Engineering	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 3

Engineering

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D1.P3.1 Introduction

- 1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).

- 2 Unique definitions relevant to this document are:
 - ALARP** means as low as reasonably practicable;

 - COSHH** means control of substances hazardous to health;

 - Data Review Record** means a Purchaser's defined format to capture, agree and close out comments on Data;

 - Design Reviews** means 'System Requirements Reviews' or 'SRR'; 'System Design Reviews' or 'SDR'; 'Software Specification Reviews' or 'SSR'; 'Preliminary Design Reviews' or 'PDR'; 'Critical Design Reviews' or 'CDR'; and 'Production Readiness Reviews' or 'PRR';

 - FCA** means functional configuration audit conducted to verify that the Equipment conforms to all specified Technical Requirements;

 - FMEA** means failure modes and effects analysis;

 - FTA** means fault tree analysis;

 - IPMS** means integrated platform management system;

 - JRA** means a joint risk assessment conducted by the Purchaser, Supplier, Customer and the Supplier's Independent Safety Auditor to identify equipment-level hazards and Ship-level accident scenarios (safety risks). Such JRAs will include compartment Zonal Analysis (ZA), Operating and Support Hazard Analysis (OSHA), Occupational Health Hazard Analysis (OHHA), and Software Hazard Analysis (SWHA) sessions;

 - Level 2 Guidance Data** means the tolerances of the Data and Technical Information for the key parameters of the Equipment (e.g. space, weight, power, interfaces, etc...) is within +/- 0% of the actual out turn parameters within manufacturing tolerances;

 - 'As-Built' Data** means that the Data and Technical Information represents the 'as-built' parameters of the Equipment;

 - MRI** means Master Record Index;

 - MRIA** means MRI Audit;

 - PCA** means physical configuration audit conducted to confirm that the 'as built' Equipment have been produced and configured in accordance with the Supplier's manufacturing drawings and Data;

 - PES** means programmable electronic systems;

 - TL** means test loads;

 - TRR** means Test Readiness Review conducted to confirm completeness of test procedures, to assure the Equipment are ready for testing, and to assure that the testing activity is prepared for formal testing; and

 - SWL** means safe working loads.

- 5 This SOW defines the set of technical drawings, verification indices, interface specifications, test plans, linking schedules, reports, etc... (i.e. Data Items) that are to be supplied by the Supplier during the design, manufacture, testing, installation, setting to work, commissioning, trials and Provisional Acceptance of the Equipment.

D1.P3.2 Engineering Report

Notwithstanding the requirements of DID E2xx; where the Purchaser has evidence of a technical issue (which may impact integration, performance or delivery of one or more Deliverables, then the Supplier shall, on written request, deliver an Engineering Report in accordance with SDRL Exx and DID Exx.

D1.P3.3 Product Cable Data Sheet

- 1 The Supplier shall prepare and deliver cable interface data for each Item of the Equipment having a power or signal/control interface in accordance with SDRL Exx and DID Exx.
- 2 The Supplier shall select Purchaser supply inter-unit cables for use on the Ship from the Purchaser's cable library (Ref: [*]).
- 3 The Supplier shall number inter-unit cables and prepare and deliver inter-unit wiring diagrams in accordance with the requirements of the Purchaser's cable numbering policy (Ref: [*]). Cable numbers shall be shown on the Supplier's inter-unit wiring diagrams, equipment wiring and termination drawings and on the cable data sheets.

D1.P3.4 Hardware Interface Control Document

- 1 In addition to the specific deliverables required by DID E2xx, the Supplier shall prepare and deliver the following drawings and documentation as defined in SDRL E2xx and summarised below:
 - (a) Supplier's Specifications for the Equipment - The Supplier shall prepare and deliver Supplier's Specifications for the Equipment designed by the Supplier and to flow down the relevant technical and operational requirements to selected lower tier suppliers;
 - (b) Drawings and documents to be provided
 - (i) structural arrangement;
 - (ii) pipes and fittings assembly;
 - (iii) power unit assembly;
 - (iv) lubrication oil tank assembly;
 - (v) lubrication system;
 - (vi) hydraulic diagram;
 - (vii) inter-unit diagram;
 - (viii) ethernet hub details (if wire connections > 100metres);
 - (ix) starter drawing;
 - (x) emergency starter drawing;
 - (xi) installation drawing servo amp unit / junction box;
 - (xii) installation drawing Local Control Unit;

- (xiii) SOLAS panel installation drawing;
 - (xiv) lifting arrangement drawing;
 - (xv) FAT Schedule;
 - (xvi) FAT Report;
 - (xvii) HAT Schedule;
 - (xviii) HAT Report;
 - (xix) SAT Schedule;
 - (xx) SAT Report;
 - (xxi) guidance notes for installation;
 - (xxii) Operation and Maintenance manual; and
 - (xxiii) 3D models of the Equipment to ship integration.
- (c) System Maximum Operating Temperatures – Maximum compartment and sea water temperatures for normal system operation;
- (d) Lifting Points Register - The Supplier shall define SWLs and TLs required for all Equipment lifting points. Lifting points in this register shall be cross-referenced on the Lifting Point Drawings.
- (e) Lifting Point Drawings – The Supplier shall submit a lifting point drawing for each Item of the Equipment that weighs in excess of 20Kg as per SDRL E2xx, or alternatively clearly identify on each Equipment drawing the position of each lifting point with its associated reference to the Lifting Point Register and its SWL.
- (f) Interface Specifications – An interface specification shall be delivered in a format to be agreed with the Purchaser, for each interface between each Item of Equipment and other equipment, structure or components (i.e. pipes, cables etc.) that are the responsibility of the Purchaser and/or his agents. These documents shall define the interface by the use of text or drawings and identify the parties responsible for each aspect of the interface (i.e. the Purchaser and his agents). The Supplier, the Purchaser and all other stakeholders who are affected by the interface agreement shall be signatories to these documents.
- (g) Interface Control Documents – An interface control document shall be delivered in a format to be agreed with the Purchaser for each Item of Equipment. This set of documents shall define the interfaces between the Supplier's equipment and other equipment, structure or components (i.e. pipes, cables etc.) that are the responsibility of the Purchaser and/or his agents. The interface control documents shall reference the interface specifications and drawings that define the interface and list the stakeholders that are affected by the interface.
- 2 In addition to the Level 0, Level 1 and Level 2 Guidance Data required by DID E2xx, the Supplier shall also prepare and deliver 'as-built' drawings. These shall indicate the 'as-built' condition of the Equipment incorporating any agreed changes and allowed concessions against the drawings forming part of the Level 2 Guidance Data.
- 3 The Data supplied in response to SDRL E2xx shall include the following Information for each Item of the Equipmnet:
- (a) equipment performance Data;

- (b) seating details / holding down arrangements;
- (c) mount details;
- (d) lifting arrangements;
- (e) maintenance envelopes;
- (f) weight and centre of gravity;
- (g) cable/pipework/ducting interface details;
- (h) instrumentation locations;
- (i) air/liquid cooling requirements;
- (j) paint specification / finish; and
- (k) other services required.

D1.P3.3.5 Safety and Environmental Assessment Plan

The Supplier shall prepare and deliver a Safety and Environmental Assessment Plan in accordance with SDRL E2xx and DID E2xx.

D1.P3.3.6 Hazard Log

- 1 Subsequent to their attendance at various JRA sessions, the Supplier will receive equipment hazard spreadsheets in Microsoft Excel "bow tie" format, pre-populated with a brief description of all identified equipment-level functional hazards.
- 2 In accordance with SDRL E2xx and DID E2xx, the Supplier shall further populate the cause, mitigation (barrier), escalation factor and escalation factor control fields for each identified hazard on these spreadsheets and formally resubmit them back to the Purchaser for subsequent integration into the overall Ship hazard database.
- 3 In addition to populating the hazard spreadsheets with the functional hazard data identified above, the Supplier shall also further populate these spreadsheets with physical hazard Data gleaned from their own physical hazard analysis sessions.

D1.P3.3.7 Safety and Environment Assessment Report

- 1 In addition to the requirements of DID E2xx the Supplier's report shall include:
 - (a) A summary of their causal analysis, mitigation analysis and hazard analysis, arguing that all physical hazards, and all functional hazards identified during the JRAs, have been reduced to ALARP levels (using a combination of applicable Classification Society rules and other specific safety features); and
 - (b) Annex A. A completed safety-related PES Questionnaire (Ref: [*]) which the Purchaser will use to assess compliance with the safety-related PES guide (Ref: [*]). This requirement is deleted where JRAs have indicated that the Supplier's Equipment contains no safety-related PES'.
- 2 For the avoidance of doubt, the "Supplier Hazard Log" means the Equipment hazard spreadsheets delivered in accordance with SDRL E2xx and DID E2xx.

D1.P3.3.8 Software Interface Design Description

- 1 The Supplier shall prepare, deliver and maintain IPMS interface data for the equipment forming a part of the Equipment in accordance with SDRL E062-1 and DID E062-1. For each interface that is a 'serial' or 'network' type, the Supplier shall prepare, deliver and maintain a 'software interface design description' in accordance with SDRL E2xx and DID E2xx.
- 2 The software design interface descriptions shall be prepared in accordance with DID E2xx or alternatively, in agreement with the Purchaser, the equivalent data can be supplied in the Supplier's own format.

C1.P3.3.9 Acceptance Test Plan

- 1 The acceptance test plan shall define the logical sequence of activities to progressively test and accept the Supplier's Equipment. This plan gives the Purchaser confidence that the trials and acceptance programme will demonstrate that the Equipment being supplied meet the Requirements.
- 2 The Supplier's acceptance test plan shall cover all inspections, tests, trials and acceptance activities related to the Equipment within the Supplier's scope of supply. It shall address the acceptance activities agreed in the VCRI and the required delivery schedule detailed in Schedule E1 ([*]).
- 3 The Supplier's acceptance test plan shall include, but not be limited to, the following information:
 - (a) Acceptance management structure and responsibilities;
 - (b) Process for addressing non-conformances;
 - (c) Definition of all inspections, tests, trials and acceptance events necessary to satisfy the following:
 - (i) Purchaser's acceptance requirements (defined in the VCRI);
 - (ii) Lloyd's Register requirements;
 - (iii) Supplier's setting to work/commissioning requirements;
 - (iv) Supplier's quality control requirements;
 - (d) Test and acceptance schedule;
 - (e) Test procedures and acceptance criteria for all inspections, tests and trials covering:
 - (i) Purpose of test;
 - (ii) Test venue;
 - (iii) Duration.
 - (iv) Testing environment/facility requirements;
 - (v) Test personnel and their responsibilities;
 - (vi) Support required from the Purchaser;
 - (vii) Test methods;

- (viii) Data recording/reporting;
 - (ix) Analysis methods;
 - (x) Purchaser/Supplier acceptance criteria;
 - (xi) Defect reporting.
- 4 The acceptance test plan shall be delivered in the Supplier's own format.
- 5 The inspection/test/trial procedures and acceptance criteria may be delivered as separate documents and referenced in the Test and Acceptance Plan.

D1.P3.3.10 Acceptance Trials Report

- 1 The Supplier shall prepare and deliver trials reports as defined in SDRL E145, to record the outcome of each inspection, test and trial. The trials reports shall include, but not be limited to the following information:
- (a) details of item tested;
 - (b) reference to the test and acceptance plan, VCRI and test procedure as applicable;
 - (c) deviations from the test procedure;
 - (d) details of any modifications or corrections made to the equipment;
 - (e) impact of any deficiencies;
 - (f) test results and analysis;
 - (g) observations;
 - (h) conclusions (i.e. passes/fails acceptance criteria);
 - (i) details of any 3rd party certification associated with the test e.g. approval by the Classification Society;
 - (j) signature pages to confirm satisfactory completion of each test.
- 6 the acceptance trials reports shall be delivered in the Supplier's own format.

D1.P3.3.11 Classification Certification

- 1 Requirements for classification society approval or verification of the Equipment by an independent authority are contained within Schedule B2 (Technical Requirements, VCRI and Compliance Matrix).
- 2 The Supplier shall subcontract with the Classification Society to carry out class approval as well as all structural and machinery inspections, attendance at tests and material state verification, in order to certify the Equipment in accordance with the Classification Society rules specified in Schedule B2 (Technical Requirements, VCRI and Compliance Matrix). The Supplier shall be responsible for submitting all drawings and information necessary to achieve this requirement directly to the Classification Society. Any re-work necessary to meet the Classification Society requirements shall be the responsibility of the Supplier.

- 3 As required by DID E184 (Classification Society Certification), the Supplier shall prepare and deliver certification to prove that the design, manufacture, testing and materials for the Equipment comply with the Classification Society rules as specified in Schedule B2 (Technical Requirements, VCRI and Compliance Matrix). The Supplier shall also deliver 3rd party certificates, as identified below, to confirm compliance with other standards specified in Schedule B2 (Technical Requirements, VCRI and Compliance Matrix). The certification delivered shall include, but not be limited to, the following:
- (a) Manufacturers Certificate (MC) – As defined in DID E184;
 - (b) Classification Society Certificate(s) – For all type approved equipment; and
 - (c) Evidence of Lloyd's Register Plan Appraisal – Evidence of the Classification Society Machinery Class plan appraisal shall be delivered to the Purchaser.

D1.P3.4 Services

D1.P3.4.1 Security

- 1 The Supplier's obligations regarding security clearance of its employees, lower tier suppliers, consultants and/or agents prior to them attending the Purchaser's premises, a Ship and/or a Government establishment, are covered in Part 9 (Security) of Schedule D1 (SOW).

D1.P3.4.2 Health, Safety and the Environment

- 1 The Supplier's obligations regarding health, safety and the environment while executing this Subcontract are covered in Part 10 (HSE) of Schedule D1 (SOW).

D1.P7.4.3 Attendance on Site

- 1 The Supplier's obligations regarding attendance on site by its employees, lower tier suppliers, consultants and/or agents are covered in Part 2 (Project Management) of Schedule D1 (SOW).

D1.P3.4.4 Supplier's Solution

- 1 The Customer and the Purchaser have set out their technical and support requirements in Schedules B1 to B5 inclusive and Parts 3 (Engineering) and Part 4 (ILS/Support) of Schedule D1 (SOW).
- 2 The Supplier's Solution to the Requirements is set out in Schedule C1 (Supplier's Specifications). The Supplier shall maintain and update the Supplier's documentation to reflect the Supplier's Solution throughout the Term of the Subcontract.
- 3 In the event that the Supplier's Solution requires amending in order to meet the Requirements, the Supplier shall prepare and deliver a Change Request in accordance with Part 2 (Project Management) of Schedule D1 (SOW).

D1.P3.4.5 Integration of Components Within The Equipment

- 1 The Supplier shall identify all integration activities of the Equipment required within their scope of supply. These activities shall be identified within the Supplier's Level 1 Schedule.
- 2 The Supplier shall be responsible for the physical, performance and functional integration of the Equipment supplied under the Subcontract as a deliverable system.

- 3 The Supplier shall be responsible for the definition, documentation, delivery, implementation, compliance and proving of all interfaces up to the boundaries of the Equipment.

D1.P3.4.6 Integration of the Equipment Into The Ship

- 1 The Supplier shall proactively assist the Purchaser in achieving the satisfactory integration of the Supplier's Equipment into the Ship and the proving of all interfaces between the Supplier's Equipment and the interfacing entity.
- 2 This assistance shall encompass delivery to the Purchaser of agreed interface specifications and interface control documentation that completely describes and defines all the interfaces between the Supplier's Equipment and those with which it interfaces.
- 3 This assistance shall also encompass engineering support to assess and comment on the proposed compartment layouts provided by the Purchaser into which the Supplier's Equipment will be installed with respect to the performance, operation and maintenance of the Equipment.
- 4 The Purchaser anticipates requiring 'Integration' Meetings that are to be supported by the Supplier, on an average monthly basis, to be held at the Purchaser's premises unless otherwise agreed. It is further anticipated that the periodicity of 'Integration' Meetings will be adjusted as the design matures to reduce the frequency. However, the Supplier shall continue to support integration activity as the emphasis changes from design to setting to work and trials on the Ships.
- 5 In the event that the Supplier wishes to amend a formally agreed interface, it shall, prior to delivering a Change Request, assess the feasibility of the proposed change with interfacing parties. In the event that the Change Request is authorised by the Purchaser (i.e. the Change Request becomes a Change Order), the existing interface will be substituted with the amended one by the Supplier.

D1.P3.4.7 Designated Design Authority

The Supplier shall nominate a suitably qualified and experienced individual to act as designated design authority for the Equipment.

C1.P3.4.8 Document Reviews

- 1 The Purchaser (supported as necessary by his agents) will review documentation delivered by the Supplier in accordance with the Subcontract and shall provide review comments to the Supplier in the form of a Data Review Record (**DRR**) in the Purchaser's own format. The Supplier shall respond to the comments raised by the Purchaser and/or his agents using the DRR in a timely manner by completing the "author's response/action" and "actionee" columns.
2. The Supplier shall also review and provide comments on documentation provided by the Purchaser in order to support the management of the integration of the Supplier's Equipment into one or more Ships. This documentation may include calculations/modelling outputs, interface specifications, technical reports, drawings etc... On receipt of such data from the Purchaser, the Supplier shall provide review comments to the Purchaser in a timely manner by populating the DRR.

D1.P3.4.9 Technical Interface Meetings or Unspecified Meetings

- 1 For the conduct of Meetings, preparation and delivery of agenda and minutes, recording of Action Items, populating the Action Item Database, etc..., see Part 2 (Project management) of Schedule D1 (SOW).

- 2 From time to time the Purchaser may require the attendance of the Supplier at one or more 'Technical Interface Meetings' or 'Unspecified Meetings' that involve the Purchaser, Customer, End User and other Suppliers or agents to the Purchaser.
- 3 In the event that the Purchaser requires the attendance of the Supplier at one or more of these unspecified Meetings, it will issue a written invitation by email requesting the Supplier's attendance. The invitation will include a proposed agenda.
- 4 Following receipt of a written invitation, the Supplier shall attend such Meetings at the agreed Charge-Out Rates set out in Schedule G3 (Price Itemisation, Charge Out Rates and Option Prices). In the event that an unspecified Meeting is held on the same day and location as the Supplier is otherwise required to attend as part of its obligations (e.g. Subcontract Review, Repair and Maintenance, commissioning, etc...), the Supplier shall only be entitled to those incremental costs and expenses directly related to the unspecified Meeting.

D1.P3.4.10 Supplier's Design Reviews

- 1 The Supplier shall conduct Design Reviews in accordance with the Supplier's lifecycle management processes or as otherwise agreed with the Purchaser. The Purchaser shall, by email, be invited to design reviews which may include:
 - (a) System Design Review (**SDR**) - conducted to demonstrate convergence on and the achievability of system requirements and readiness to initiate preliminary design;
 - (b) Critical Design Review (**CDR**) - conducted to demonstrate that the detailed design is complete for each 'configuration item';
 - (c) Production Readiness Review (**PRR**) - conducted to establish the baseline for the Equipment prior to commencement of manufacturing.
- 2 All Design Reviews shall be included in the Supplier's Level 1 Schedule set out in Schedule F1 (Supplier's Level 1 Schedule).
- 3 The Supplier shall prepare for Design Reviews by defining the following:
 - (a) purpose: which elements of the engineering lifecycle is being reviewed;
 - (b) entry criteria: the engineering detail such as design documentation that shall be available for assessment before the Design Review takes place;
 - (c) exit criteria: that criteria that shall be satisfied so that the Design Review can be declared 'satisfactory'; and
 - (d) visibility and participation: the attendees and the roles and responsibilities during the Design Reviews.
- 4 The Supplier shall also conduct Design Reviews with its first tier suppliers and shall, by email, invite the Purchaser to attend such reviews.
- 5 At least ten (10) Working Days prior to each Design Review, the Supplier shall provide, by email, an agenda and any necessary supporting documentation to the attendees.
- 6 Following each Design Review, the Supplier shall prepare and deliver a design review report recording the discussion, decisions and actions.

- 7 Following the delivery of the design review report, the Supplier shall deliver an agenda for a Meeting with the Purchaser to present its findings of each design review.
- 8 Following each design review Meeting, the Purchaser will advise the Supplier of the following:
 - (a) 'observations': declaration of the Purchaser's preference or statement highlighting potential problems which the Purchaser believes may result in the Requirements not being met;
 - (b) 'critical deficiencies': deficiencies which the Purchaser believes will lead to the Requirements not being met; and
 - (c) 'concurrence': any aspect of an Acceptance Event being satisfied.

D1.P3.4.11 Purchaser's Design Reviews

- 1 The Supplier shall support the Purchaser's design reviews.
- 2 Such design reviews shall be chaired by the Purchaser and conducted at the Purchaser's premises unless otherwise agreed.
- 3 The Purchaser shall inform the Supplier, by email, at least (10) Working Days in advance of the design review of the nature and content required of the Supplier's contribution to the overall design review pack following release of the design review agenda.
- 4 The Supplier shall deliver his inputs to the overall design review pack to the Purchaser (5) Working Days in advance of the Purchaser's design review and be prepared to present the status of the design at the Purchaser's design review.
- 5 The Supplier shall resolve any recorded actions that may be placed on them during the design review in a timely manner.
- 6 The Purchaser anticipates holding a one (1) day design review every six (6) months from EDS to [*].

D1.P3.4.12 Inspections and Audits

- 1 The following inspections and audits shall be conducted by the Supplier immediately prior to each Acceptance Event:
 - (a) a Level 2 Data audit to establish that the Equipment are consistent with the Level 2 data delivered by the Supplier prior to each Acceptance Event;
 - (b) a MRIA to establish that the Equipment are consistent with remaining documentation listed in the MRI prior to each Acceptance Event;
 - (c) a TRR;
 - (i) all formal testing ('system design verification testing', provisional acceptance testing, 'environmental qualification testing', 'software system tests', etc...), shall be preceded by a Supplier conducted TRR ten (10) Working Days prior to start of the test. The Purchaser shall be invited to attend;
 - (ii) TRR 'objectives: (A) establish that the system, sub-system and/or design documents, test documents, test plans for the Equipment are under configuration control; and (B) that the design

documents, test documents, test plans and procedures for the Equipment are sufficiently well developed to allow testing to proceed;

- (iii) TRR 'deliverable': presentation charts;
 - (iv) TRR 'entry criteria': the Supplier shall provide the appropriate documentation and other material to demonstrate readiness for the testing. This shall include: (A) any required prerequisite test results together with appropriate QA certification; (B) test plans and test descriptions and procedures as in (approved if appropriate) under configuration control; (C) design documents (approved if appropriate) under configuration control; (D) documents and drawings to demonstrate that hardware and Software to be tested is under configuration control and the 'version document description' is available; (E) the traceability of both tests to requirements and requirements to tests is documented in suitable matrices; (F) changes to all documentation since last formal design review or previous tests are identified; (G) schedule for testing activities is defined; (H) all informal tests are complete and the test records generated from these informal tests are available together with appropriate QA certification; (I) test results from dry runs are available together with appropriate QA certification; (J) test limitations are identified; (K) documents and drawing are available to demonstrate that the 'Article' presented for test is to a known configuration and is under configuration control; (L) documentation to prove the 'Article' is under calibration control and valid calibration certificates are available for inspection; and (M) break seals rules are established;
 - (v) TRR 'exit criteria: a TRR shall be deemed 'successful' and testing allowed to proceed if the Purchaser agrees with the following: (A) all entry criteria have been met; (B) all Action Items have been identified and a closure plan is in place; (C) all documentation required has been provided; (4) TRR Minutes agreed; (D) version of Software be tested has been verified to be under configuration control and to match the 'version document description'; (E) schedule of testing activities agreed (including remaining milestones); (F) all known discrepancies and urgency levels agreed; (G) plan for resolution of all discrepancies agreed; (H) 'test resources' are adequate for test; (I) break seals as agreed; 'as built' list compared and reconciled with 'configured parts list'; and 'as built' list is identified and available;
 - (vi) TRR 'visibility and participation': Purchaser and/or Customer
- (d) a FCA;
- (i) FCA 'objectives'; (A) establish compliance of the Equipment at an agreed level with the performance and functional characteristics specified in Schedule B1 to B[*] inclusive and establish that the Equipment 'as built' conform to the technical documentation which defines the Equipment as agreed for Ship integration; and (B) operation and support systems details are established;
 - (ii) FCA 'deliverables': presentation charts;
 - (iii) FCA 'entry criteria': (A) all Supplier's PRR or equivalent reviews completed; (B) off Ship assembly, integration and tests for the Equipments are complete to the extent agreed with the Purchaser; and (3) content and form of FCA/PCA agreed on a case by case basis with the Purchaser;
 - (iv) FCA 'exit criteria': (A) Provisional Acceptance of the Equipment at the agreed level for integration in the Ship; and (B) Purchaser's acceptance of the Supplier's FCA minutes;
 - (v) FCA 'visibility and participation: Purchaser and/or Customer

- (e) a PCA
 - (i) PCA 'objectives': establish that the Equipment 'as built' conform to the technical documentation which defines the Equipment as agreed for ship integration;
 - (ii) PCA 'deliverables': presentation charts;
 - (iii) PCA 'entry criteria': FCA complete;
 - (iv) PCA 'exit criteria': Provisional Acceptance of the Supplier 'product baseline'; and
 - (v) PCA 'visibility and participation': Purchaser and/or Customer.

D1.P3.4.13 Design, Interface and Linking Data

1 Design Data

- (a) The Supplier's Data delivered to the Purchaser prior to EDS and which the Purchaser has relied upon, is listed in the Master Document Register (see Part 13 (IT/IM) of Schedule D2 (SDRL).
- (b) In the event that the Supplier amends the Data delivered prior to EDS which is listed in the Master Document Register, it shall prepare and deliver a Change Request in accordance Part 2 (Project Management) of Schedule D1 (SOW).

D1.P3.4.14 Engineering Data

- 1 The International System of Units (SI Units) shall be used for all design and modelling activities undertaken by the Supplier in support of the design. SI Units shall be used throughout all documentation produced by the Supplier.
- 2 The Purchaser will permit the use of alternative units where convention dictates, such as for aviation and military applications (e.g. knots, nautical miles, yards and feet) or where off-the-shelf equipments or components using alternative units are adopted. Where other units are used in new documentation produced by the Supplier, the SI equivalent must be stated in the brackets.

D1.P3.4.15 Safety

- 1 The Supplier shall provide 'Subject Matter Experts' to support ongoing Joint (Purchaser, Customer and Supplier) Risk Assessments (JRAs) with respect to the Equipment and their interfaces with other goods supplied by other parties. The format of these JRAs is detailed in the Safety and Environmental Management Plan (ref. [*]).
- 2 Upon receipt of the hazard spreadsheets relating to the Equipment populated during the JRAs, the Supplier shall perform causal analysis to assess the nature and likelihood of all causes for each identified hazard. This analysis shall consist of FMEAs and/or FTAs or any other suitable method which can demonstrate that the Equipment' contribution to Ship-level safety risks is ALARP. Where it is deemed that this contribution is not ALARP, the Supplier shall perform mitigation analysis in consultation with the Purchaser to achieve ALARP.
- 3 In addition to providing continuing support for the JRAs, the Supplier shall also undertake (or report previous evidence of) physical hazard analysis to demonstrate that all such hazards and causes have been reduced to ALARP levels. This analysis is deemed independent of the integration of the Supplier's equipment into the Ship and hence is not normally performed during the JRA sessions. The Supplier shall, however, give 10 Working Days notice of, and invite the Purchaser to, all such physical hazard analysis sessions.

- 4 As detailed in the Ship's Safety and Environmental Management Plan, the Purchaser's safety policy states that application of Classification Society rules is considered to constitute best practice in mitigating risks to ALARP levels, wherever application of an appropriate Lloyd's Rule mitigates all perceived causes for a particular hazard. In these cases, demonstrable compliance with the relevant rules of the Classification Society as determined by a recognised classification society surveyor, will be deemed sufficient to claim ALARP. However, JRAs have identified many functional hazards that are not wholly mitigated by Lloyd's Rules. Where this is the case the Supplier shall provide further specific equipment level mitigations to support the ALARP argument.

C1.P3.4.16 Safety and Environmental Audit

- 1 The Supplier shall allow access for Safety or Environmental Audit by the Purchaser, its agent or Canada.

C1.P3.4.17 Provisional Acceptance of the Equipment

- 1 The Supplier shall demonstrate to the Purchaser that the physical and functional 'performance statements' and/or Requirements set out in Schedules B1 to B[*] inclusive and Schedule D1 (SOW) have been satisfactorily achieved. I.e. that they fully conform to the requirements of the Subcontract.
- 2 The Supplier shall present, conduct and achieve the Acceptance Events set out in Schedule A2 (General Terms) and Appendix [*] of the Articles of Agreement with the following exceptions:
 - (a) [*].

Document Identifier	Number: [* insert VSY Document #]	Rev:	1		
Title:	Integrated Logistics Support SOW			Ship applicability:	All
Document Owner:	[* insert name]	Document Approver:	[* insert name]		
Master Template Ref:	Schedule D1 Part4 (ILS) SOW			Project:	[*insert name]
Type	Organisation	Area	Supplier	VSY Supplier Code	SWBS
SOW	ILS	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 4

Integrated Logistics Support

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Page 1 of 8
 Supplier's initials: []
 Duplicate [] of 2

D1.P4.1 Introduction

1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).

2 Unique definitions relevant to this document are:

AMP means Assisted Maintenance Period;

ARM means availability, reliability and maintainability;

Base means the End User's Naval base;

COB means Carried On Board;

COTS means commercial off the shelf;

CRETE means common range electrical test equipment;

DED means Docking and Essential Defects;

Insurance Spares are defined in section D1.P4.2.9(d);

LRU means Line Replacement Unit;

Maintenance is defined in section D1.P4.2.4;

OEM means Original Equipment Manufacturer;

Operational Hours per Year per Ship means three thousand (3,000) hours of use per year, per Ship;

Ship Mission means an unsupported mission for the Ship of thirty (30) calendar days;

SMP means Self-Maintenance Period;

Support Period is defined in section 1 of the Articles of Agreement;

TLSC means Through Life Support Cost; and

TNA means Training Needs Analysis.

3 The Project is divided into two phases, namely:

(a) Phase 1 – The Design Phase; and

(b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices)).

4 This SOW is divided into three sections, namely:

(a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);

(b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and

(c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A - GENERAL

D1.P4.2 General Requirements

- 1 The Purchaser is committed to the optimization of TLSC of ownership on behalf of the End User. As a consequence, the Supplier is required to provide all the Data and documentation necessary for the support of the Equipment during the Design Phase, the Build Phase and the Support Period.
- 2 The Supplier is required to define Equipment reliability leading to the recommended maintenance policy to be adopted, and support asset provisioning to achieve Equipment availability for a total of the Operational Hours per Year per Ship that will include unsupported Ship Missions.
- 3 For the Ship Missions, the assessed operating profile for the Equipment is set out in the Purchaser's Technical Requirements.
- 4 For the purposes of this SOW, assume the definition of Maintenance used by the End User is:
 - (a) Level 1 – Organizational Maintenance (Ship's staff): daily or periodic checks of the Equipment, visual inspection, condition monitoring, operational checkout, minor servicing, replacing consumables and general cleaning tasks. Tasks performed by Ship's staff either at sea or in harbour;
 - (b) Level 2 - Organizational Maintenance (Ship's staff): minor servicing, functional testing, simple inspections and external adjustments, fault diagnosis and repair by replacement of LRUs. On board repair shall be limited to LRU items such as processor boards for electronic Equipment and replacement of minor assemblies and components and simple modifications. Tasks performed by Ship's staff at sea, in harbour, or during an SMP;
 - (c) Level 3 - Intermediate Level Maintenance (Base staff): major servicing and planned maintenance, detailed inspections and complicated adjustments. Major repairs and modifications to main Equipment. Replacement of major assemblies and limited calibration procedures. Tasks performed by second line maintenance personnel at intermediate level either on board or at a supporting workshop. Tasks performed by Base staff during AMP or DED ; and
 - (d) Level 4 - Third Line Maintenance Level (Base staff): extensive and complicated test and repair. Modifications and adjustments on assemblies or LRUs. Upgrading, overhaul rebuild, refit and refurbishment of Equipment and assemblies. Detailed calibrations and overload from second line maintenance. Tasks performed by 'Third Line Maintenance Personnel' at supporting workshop or base workshop ashore. Tasks performed by Base staff during DEDs or refits.
- 5 Supplier Maintenance: in addition to the above, 'Fourth Line Maintenance' will be performed by contracted personnel at either an industrial site such as the Supplier's, the OEM's or on site at the Base. Fourth Line Maintenance also includes major upgrading, overhaul, rebuild, refit and refurbishment of Equipment and assemblies, extensive and complicated factory testing, repairs, modifications and adjustments including high level calibration.
- 6 Technical Documentation: the Supplier shall provide to the Purchaser all necessary publications, information and Data for operation, maintenance, repair and overhaul of the Equipment and Deliverable Software (if any), in unilingual English, Supplier or OEM COTS format or, if available, in COTS bilingual English and French, in either separate by language (preferred), or side-by-side format. Soft or electronic copies of publications, Data and manuals must be provided. If only commercially available in hard copy, the Supplier shall provide in scanned PDF Adobe searchable format.
- 7 Availability, Reliability and Maintainability: a pragmatic approach is to be taken to ARM. The approach shall be to use existing ARM Data and material where available. The Supplier shall supply existing material with a cross reference to the Data requirements below that is relevant to the Equipment.

- 8 Training: training will take place at the Supplier's premises using representative equipment. Where there is a specific need to use the Equipment supplied under the Subcontract, training will be conducted at the Supplier's premises using the Equipment supplied under the Subcontract following its Factory Acceptance Test (**FAT**).
- (a) The number of candidates (trainees) to be trained for the Equipment shall be:
 - i. Ship Operator - four (4) End User candidates (trainees) for each course per Ship;
 - ii. Ship Maintainer - four (4) End User candidates (trainees) for each course per Ship; and
 - iii. Base Maintainer - four (4) End User candidates (trainees) for each course per Ship.
 - (b) Additional Ship Operator and Ship Maintainer training for the Purchaser's staff (if required) are identified in Part 7 (Commissioning, Test & Trials) of Schedule D1 (SOW).
 - (c) Spare Course capacity shall be utilised at the Purchaser's discretion for use by either the End User or the Purchaser's candidates (trainees).
- 9 Spares' recommendations and associated prices shall be separately provided as follows:
- (a) COB Spares to support the Ship Mission with a stock availability of eighty percent (80%) per line item Spare.
 - (b) Sufficient replenishment of COB Spares, to be held at Base, for the Support Period assuming the Operational Hours per Year per Ship.
 - (c) Sufficient Spares to support Base corrective and preventive maintenance tasks to provide a stock availability of eighty percent (80%) per line item Spare for the Support Period stock is required.
 - (d) Insurance Spares are to be individually identified and priced. These items, not included in sub-sections (a) to (c) above, are to be kept to a minimum, are to include long lead items that cannot be repaired within the timescale to keep the Ship operational and whose failure would cause the Ship to become non-operational. Where material redundancy is built into the Equipment, Insurance Spares are unlikely to be required.

D1.P4.3 Project Execution Plan and Subcontract Master Schedule

The Supplier shall ensure that all ILS activities, internal milestones and contractual Milestones are part of the Supplier's Level 1 Schedule (see Schedule F), Project Execution Plan and Subcontract Master Schedule described in Part 2 (Project Management) of Schedule D1 (SOW).

D1.P4.4 Technical Support

The Supplier shall support the Purchaser, Canada and the Project's Third Party Beneficiary ILS provider in all matters relating to ILS, including verifying, clarifying and validating the Data Items; the development of a TNA (if required at a later date); and demonstrating progressive reliability and maintainability assurance. The Supplier shall permit the Purchaser, Canada and the Project's Third Party Beneficiary ILS provider to attend the Supplier's premises, engage with the Supplier's technical staff and the technical staff of lower tier suppliers to the Supplier (i.e. Sub-subcontractors) and make additional copies of technical Data not called for in Schedule D2 (SDRL) required to support the Equipment with respect to the Project. The support shall be provided by the Supplier at the Charge Out Rates set out in section B of Schedule G2 (Price Itemization, Charge Out Rates and Option Prices).

D1.P4.5 ILS Capabilities Questionnaire

The Supplier shall prepare and deliver the ILS Capabilities Questionnaire in accordance with SDRL ILS201 and DID ILS201.

D1.P4.6 Manuals – Existing

- 1 The Supplier shall prepare and deliver Operator and Maintenance Manuals - Existing in accordance with SDRL ILS210 and DID ILS210.
- 2 The Supplier shall prepare and deliver Repair and Overhaul Manuals - Existing in accordance with SDRL ILS214 and DID ILS214.

D1.P4.7 Technical Documentation

- 1 Equipment Drawings

The Supplier shall prepare and deliver Equipment Drawings in accordance with Part 3 (Engineering) of Schedule D1 (SOW).

- 2 Illustrated Parts Catalogue

The Supplier shall prepare and deliver an Illustrated Part Catalogue relating to the Equipment in accordance with SDRL ILS215 and DID ILS215.

- 3 Start Up / Shut Down Procedures

The Supplier shall prepare and deliver Start Up / Shut Down Procedures relating to the Equipment in accordance with SDRL ILS216 and DID ILS216.

- 4 Planned Maintenance and Instruction Schedules

The Supplier shall prepare and deliver Planned Maintenance and Instruction Schedules for the Equipment in accordance with SDRL ILS217 and DID ILS217.

- 5 Repairable Item list (RIL)

The Supplier shall prepare and deliver a Repairable Items list in accordance with SDRL ILS 218 and DID ILS218.

D1.P4.8 Support Documentation

- 1 NATO Codification Data

In the event that the Equipment, or Items of the Equipment, do not have NATO stock numbers, the Supplier shall prepare and deliver NATO Codification Data in accordance with SDRL ILS221 and DID ILS221.

D1.P4.9 Support Materials

- 1 Carried On Board Spares

The Supplier shall prepare and deliver a Recommended Carried On Board Spares List in accordance with SDRL ILS230 and DID ILS230.

2 Carried On Board STTE, CRETE, etc...

The Supplier shall prepare and deliver a Recommended Carried On Board STTE, CRETE, CRHT and CRMTE List in accordance with SDRL ILS231 and DID ILS231.

3 Consumable Items List (CIL)

The Supplier shall prepare and deliver a Consumable Items List in accordance with SDRL ILS 232 and DID ILS232.

4 Base Spares

The Supplier shall prepare and deliver a Recommended Base Spares List in accordance with SDRL ILS250 and DID ILS250.

5 Insurance Spares

The Supplier shall prepare and deliver a Recommended Insurance Spares List in accordance with SDRL ILS253 and DID ILS253.

6 Base STTE, CRETE, etc...

The Supplier shall prepare and deliver a Recommended Base STTE, CRETE, CRHT and CRMTE List in accordance with SDRL ILS252 and DID ILS252.

D1.P4.10 Maintenance Analysis

1 The Supplier shall conduct Maintenance Task Analysis (**MTA**). The Supplier shall prepare and deliver Maintenance Task Analysis Data in accordance with SDRL ILS260 and DID ILS260.

2 The Supplier shall conduct Level of Repair Analysis (**LORA**). The Supplier shall prepare and deliver LORA Reports in accordance with SDRL ILS261 and DID ILS261.

3 The Supplier shall conduct Failure Modes and Effects Analysis (**FMEA**). The Supplier shall prepare and deliver Maintenance FMEA Reports in accordance with SDRL ILS262 and DID ILS262.

4 The Supplier shall prepare and deliver ARM Data in relation to the Equipment (or similar equipment) in accordance with SDRL ILS263 and DID ILS263.

D1.P4.11 Training

The Supplier shall prepare and deliver Recommended Training, Course Materials, Aids and Devices in accordance with SDRL ILS 271 and DID ILS271.

D1.P4.12 Master Records Index - ILS

The Supplier shall prepare and deliver a Master Records Index – ILS in accordance with SDRL ILS280 and DID ILS280.

D1.P4.13 Disposal Plan

The Supplier shall prepare and deliver a Disposal Plan in relation to the Equipment, or Items of the Equipment, in accordance with SDRL ILS281 and DID ILS281.

D1.P4.14 to 49 Reserved**SECTION B – THE DESIGN PHASE****D1.P4.50 Operator and Maintenance Manuals - New**

- 1 In the event the Operator and Maintenance Manuals for the Equipment do not exist, or in the event the Equipment has to be materially modified to meet the Purchaser's Technical Requirements, then, in such circumstances, the Supplier shall prepare and deliver new Operator and Maintenance Manuals in accordance with the sections below. For the purposes of this section, 'material' means a Maturity of the Solution value less than eighty per cent (80%) (see section 1 of the Articles of Agreement).
- 2 All new Operator and Maintenance Manuals generated to satisfy the requirements of section 1 are to be produced in three (3) stages and agreed with the Purchaser at each stage with delivery dates as described in the SDRL Table set out in Schedule D2 (SDRL). The three (3) stages are as follows:

Stage	Description
1	Operator and Maintenance Manuals - Synopsis;
2	Operator and Maintenance Manuals - Draft; and
3	Operator and Maintenance Manuals - Final.
- 3 The Supplier shall prepare and deliver Operator and Maintenance Manuals - Synopsis in accordance with SDRL ILS211 and DID ILS211.
- 4 The Supplier shall prepare and deliver Operator and Maintenance Manuals - Draft in accordance with SDRL ILS212 and DID ILS212.
- 5 The Supplier shall prepare and deliver Operator and Maintenance Manuals – Final in accordance with SDRL ILS213-1 and DID ILS213.

D1.P4.51 Repair and Overhaul Manuals - New

- 1 In the event Repair and Overhaul Manuals for the Equipment do not exist, or in the event the Equipment has to be materially modified to meet the Purchaser's Technical Requirements, then, in such circumstances, the Supplier shall prepare and deliver new Repair and Overhaul Manuals in accordance with the sections below. For the purposes of this section, 'material' means a Maturity of the Solution value less than eighty per cent (80%) (see section 1 of the Articles of Agreement).
- 2 All new Repair and Overhaul Manuals generated to satisfy the requirements in section 1 are to be produced in three (3) stages and agreed with the Purchaser at each stage with delivery dates as described in the SDRL Table set out in Schedule D2 (SDRL). The three (3) stages are as follows:

Stage	Description
1	Repair and Overhaul Manuals - Synopsis;
2	Repair and Overhaul Manuals - Draft; and
3	Repair and Overhaul Manuals - Final.
- 3 The Supplier shall prepare and deliver Repair and Overhaul Manuals - Synopsis in accordance with SDRL ILS240 and DID ILS240.

- 4 The Supplier shall prepare and deliver Repair and Overhaul Manuals - Draft in accordance with SDRL ILS241 and DID ILS241.
- 5 The Supplier shall prepare and deliver Operator and Maintenance Manuals – Final in accordance with SDRL ILS242-1 and DID ILS242. Repair and Overhaul

D1.P4.52 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P4.100 Continued Configuration and Compatibility of Work Obligations

The Supplier shall maintain during each of Build Phase all Data Items prepared and delivered during the Design Phase so as to fulfil its continued configuration management and Compatibility of the Work obligations.

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Title:	Quality Assurance SOW			Ship applicability:	All
Document Owner:	[* insert name]	Document Approver:	[* insert name]		
Master Template Ref:	Schedule D1 Part 5 (QA) SOW			Project:	[*insert name]
Type	Organisation	Area	Supplier	VSY Supplier Code	SWBS
SOW	QA	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 5

Quality Assurance

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D1.P5.1 Introduction

1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).

2 Unique definitions relevant to this document are:

ARM means availability, reliability and maintainability;

Audit means systematic, independent and documented process for obtaining objective evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled;

Classification Society or Class is defined section 1 of the Articles of Agreement;

CoC means Certificate of Conformity;

Deviation means authorization is given to depart from design requirements prior to manufacturing;

FMECA means failure modes and effect criticality analysis;

Hold means a point in the manufacturing or testing cycle beyond which the Supplier is not permitted to proceed without the presence of the Purchaser's and/or Canada's nominated witness, unless written confirmation from the Purchaser of non-attendance has been received by the Supplier;

Independent QC Inspection means an authorised and suitably qualified and competent Supplier's representative who is independent from the design and manufacturing department or the inspector designated by the applicable rules and regulations;

ITP means Inspection and Test Plan;

Manufacturing Records means all necessary Data sufficient to verify the compliance of the Equipment, SPT, Deliverable Software and Spares in accordance with the Subcontract and Supplier's legal requirements for product liability to permit the issue of a CoC;

QP means Quality Plan;

Quality Surveillance means the continual monitoring and verification of the status of an entity and analysis of records to ensure that the requirements of the Subcontract are being met;

R&M means reliability and maintainability;

Review means a point in the manufacturing or testing cycle at which a record of the activity is required (the Purchase's and/or Canada's nominated witness is required to review/endorse these records at the earliest opportunity); and

Wavier means authorization to accept deliverables that during manufacturing or inspection is found to depart from design requirements; and

Witness means a point in the manufacturing or testing cycle where the Purchaser and/or Canada must be given the option to attend (for repetitive activities, witnessing of a percentage of the total may be specified).

3 The Project is divided into two phases, namely:

(a) Phase 1 – The Design Phase; and

(b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices)).

- 4 This SOW is divided into three sections, namely:
- (a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);
 - (b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and
 - (c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A – GENERAL

D1.P5.2 Non-Conforming Work

- 1 The Supplier shall not embody or deliver any Deliverables to the Purchaser, which has a material non-conformance against the specified requirements or design documentation, as expressed through agreed baselines, without prior approval, in writing, from the Subcontract Authority (who will liaise and jointly agree with the QA Authority). Delivery of non-conforming Work shall not be made until such approval has been granted.
- 2 The Supplier shall notify the Subcontract Authority on any non-conforming Work received from a lower tier supplier.
- 3 In the event that the Supplier wishes to apply for a Wavier or Deviation the Supplier shall prepare and deliver a Concession Application in accordance with SDRL QA202 and DID QA202.

D1.P5.3 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P5.50 Quality Plan

The Supplier shall prepare, deliver and maintain a Quality Plan in accordance with SDRL QA201-1 and DID QA201, the latter amended as follows:

- (a) title changed from 'Quality Plan' to 'Quality Plan – The Design Phase'.

D1.P5.51 Quality Records

The Supplier shall maintain the quality records relating to the Subcontract for the Data Retention Period.

D1.P5.52 Verification and Classification Requirements

- 1 Where specified in the Technical Requirements, the Supplier shall be responsible for determining the extent of Class verification for the Equipment including design and inspection.
- 2 Upon written request, the Purchaser will advise the Supplier of the contact details of the Classification Society.

D1.P5.53 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P5.100 Quality Plan

The Supplier shall prepare and deliver a Quality Plan in accordance with SDRL QA201-2 and DID QA201, the latter amended as follows:

- (b) title changed from 'Quality Plan' to 'Quality Plan – The Build Phase'

D1.P5.101 Manufacturing Records

- 1 The Manufacturing Records for the Equipment shall be indexed and retained by the Supplier in a logical and instantly retrievable format.
- 2 The Manufacturing Records shall be made available to the Purchaser on request for reference purposes.

D1.P5.102 Quality Surveillance

- 1 The Purchaser may conduct Quality Surveillance at the Supplier's premises and/or at the premises of its lower tier suppliers to verify quality.
- 2 The Purchaser's Quality Surveillance activities may include:
 - (a) initial pre-production visit;
 - (b) stage surveillance based upon pre-defined Witness and Hold, Witness and Review Points;
 - (c) Review of approved FAT procedures;
 - (d) FATs;
 - (e) final inspection/release of the Deliverables (other than Services) to verify the Purchaser's design and manufacturing requirements prior to delivery to the Purchaser or the Purchaser's agent (e.g. carrier – See Part 12 (Logistics) of Schedule D1 (SOW));
 - (f) HATs; and
 - (g) SATs.

D1.P5.103 Supplier QA Audit

- 1 The Purchaser reserves the right to conduct QA audits of the facility and the Work at the Supplier's premises and/or the premises of its lower tier suppliers in order to evaluate the Supplier's satisfaction of:
 - (a) the Subcontract, the Technical Requirements and the approved Quality Plan;
 - (b) Class and other regulatory requirements applicable to the Subcontract;
 - (c) Applicable design and manufacturing processes and procedures;
 - (d) confirmation of material delivery, manufacturing and testing schedules;
 - (e) maintaining QA and technical documentation and records; and

- (f) control of lower tier suppliers and flow down of Purchaser's Technical Requirements and QA requirements including applicable design and manufacturing processes and procedures.

D1.P5.104 Pre-Production Meeting

- 1 The Supplier shall hold a pre-production meeting at the Supplier's main manufacturing locations to confirm and clarify QA/QC Subcontract details and requirements.
- 2 Attendees at the pre-production meeting shall include all associated parties and held before the commencement of manufacturing of the Equipment and/or Spares.
- 3 The pre-production meeting may form part of the agenda for a Meeting held in accordance with Part 2 (Project Management) of Schedule D1 (SOW).
- 4 The Supplier shall provide a minimum of ten (10) Working Days advance written advice to the Purchaser of the pre-production meeting with a subsequent twenty-four (24) hour email confirmation prior to the actual activity taking place.

D1.P5.105 Inspection and Test Plan

- 1 The Supplier shall prepare and deliver a draft Inspection and Test Plan (*ITP*) in accordance with SDRL QA203-1 and DID QA203, the latter amended by:
 - (a) changing the title from 'Inspection and Test Plan to 'Inspection and Test Plan – Draft'.
- 2 Following receipt and review of the draft ITP, the Purchaser will mark-up the draft ITP with the Purchaser's required hold, witness and review points and return it to the Supplier. The Supplier shall prepare and deliver an IPT including the Purchaser's hold, witness and review points in accordance with SDRL QA203-2 and DID QA203, the latter amended by:
 - (a) changing the title from Inspection and Test Plan to 'Inspection and Test Plan – Final'.
- 3 The Supplier shall advise the Subcontract Authority when such a Hold, Witness and Review event is required in accordance with section D1.P2 Part 2 (Project Management) of Schedule D1 (SOW).
- 4 The Supplier shall provide a minimum of thirty (30) Working Days advance written advice to the Purchaser for any hold, witness or review points with a subsequent twenty-four (24) hour email confirmation prior to the actual activity taking place.

D1.P5.106 Factory Acceptance Test (FAT)

The Purchaser and one or more Third Party Beneficiaries may attend Factory Acceptance Tests to fully validate the design in accordance with the approved FAT procedures and Inspection and Test Plan.

D1.P5.107 Inspection and Release for Shipment

- 1 The Equipment, Deliverable Software and Spares may be subject to inspection by the Purchaser and/or Canada at the Supplier's premises prior to the Purchaser authorising release for shipment by way of a Call-Off Instruction issued by the Subcontract Authority (see Part 2 (Project Management) and Part 12 (Logistics) of Schedule D1 (SOW)).
- 2 The Supplier shall be responsible for ensuring that the Equipment, Deliverable Software and Spares are ready for inspection (including those from lower tier suppliers) and are fully compliant with the requirements of the Subcontract.

- 3 The Supplier shall not despatch any Equipment, SPT, Deliverable Software or Spares prior to the Purchaser issuing a Call-Off Instruction for the Item(s) in question.

D1.P5.108 Certificate of Conformity

The Supplier shall prepare and deliver a Certificate of Conformity (**CoC**) for every consignment of Equipment, SPT and Spares delivered under the Subcontract. The CoC shall be prepared and delivered in accordance with SDRL QA204 and DID QA204. The original version of the CoC shall be delivered to the VFI Coordinator: a copy must be attached with the paper work that accompanies the Equipment, SPT and Spares.

D1.P5.109 Harbour Acceptance Trials (HATs) and Sea Acceptance Trials (SATs)

The Purchaser, Canada and one or more Third Party Beneficiaries may attend HATs and SATs to fully validate the design in accordance with the Inspection and Test Plan.

D1.P5.110 Material Certification and Traceability

- 1 For Equipment, SPT, Spares or raw materials that are subject to Class, the type of material certification and level of traceability shall be in accordance with the applicable Class Rules for the 'Manufacture, Testing and Certification of Materials' or as stated in the relevant section of the applicable Class Rules and Regulations.
- 2 For Equipment, SPT, Spares or raw materials that are not subject to Class, the type of material certification and level of traceability shall be in accordance with the applicable National Standards for Regulatory or Statutory Requirements e.g. pressure vessel, lifting equipment, etc...
- 3 The Supplier shall ensure that the Equipment, SPT, Deliverable Software and Spares delivered to the Purchaser are accompanied by such certification of conformance from the Original Equipment Manufacturer (**OEM**) as may be necessary to meet Class and/or regulatory requirements.

D1.P5.111 Defects and Defect Rectification

- 1 The Supplier shall operate a Defect Recording and Corrective Action System (**DRACAS**) for the Equipment and Deliverable Software throughout the period of performance.
- 2 The DRACAS system shall be a documented closed-loop system for reporting, collecting, recording, analysing, categorising, investigating and taking timely, effective corrective action on all discrepancies and failures relating to design, manufacturing and test processes that occur during any Project activity whether conducted at the Purchaser's, Supplier's premises, Ship or elsewhere where the Work is being performed.
- 3 Operational and usage data together with operating conditions shall also be recorded. The DRACAS shall cover all materiel being procured under the Subcontract and shall provide for the reporting of suspected failures and discrepancies as well as observed failures, failure indications and discrepancies.
- 4 Early identification and elimination of failure and deficiency causes is a major contributor to R&M growth and attaining acceptable field R&M.
- 5 The sooner that any failures, causes of deficiency, design problems and errors can be identified, the easier it is to implement effective corrective action.
- 6 As the design, documentation and preliminary system matures, corrective action can still be identified, but its implementation becomes more difficult and more costly. It is, therefore, important to employ a closed-loop DRACAS early in the Project.

- 7 The Supplier's existing DRACAS system should be used with only those changes necessary to accomplish the fundamental purposes of eliminating failure and deficiency causes and documenting the action taken.
- 8 The emphasis in such analysis is not on determining whether or not the final design will meet the quantitative R&M requirements, but also on providing assessment and insight into improving areas of the design that may be deficient in ARM and that may highlight impacts to the Equipment or Ship safety.
- 9 The DRACAS system may also provide information that is useful in planning the logistics support and personnel requirements of the Equipment.
- 10 DRACAS effectiveness depends on accurate input Data, i.e. reports documenting failures, anomalies and failure cause isolation. Essential inputs are made by failure cause isolation. In addition, essential inputs are made by the failure reporting activity, which should span across all activities. These inputs should document all conditions related to a failure so that the root cause can be more easily determined.
- 11 These observations may also be used to verify the FMECA for correctness and consistency. Formal laboratory failure analyses may be required to reveal failure mechanisms and provide the basis for effective corrective action. Laboratory failure analysis should always be done for reliability test failures if the part failure mode does not apply to the determination of the root cause of failure.
- 12 To analyse the ARM parameters, the respective times have to be recorded (for instance, operating times and times needed for maintenance actions).
- 13 The failure and deficiency causes for each failure and deficiency should be clearly stated. In addition, the method of establishing and recording operating time or cycles on the Equipment, or of establishing repair time histories, should be clearly defined when applicable.
- 14 A useful output of the DRACAS system is a failure and deficiency summary report, which groups information according to part type or failure cause. The effectiveness of the DRACAS effort should be monitored by a follow-up audit that reviews all the open failure and deficiency reports, the failure and deficiency analyses, pattern defects/failure register and the corrective action deadlines. Any problems revealed should be brought to the attention of the Purchaser.
- 15 The Supplier shall implement a DRACAS system with the following requirements:
 - (a) Data records shall be maintained of all hardware and software failures/defects, which occur during Development, Production, and In-Service activities. e.g. environmental, endurance and reliability testing;
 - (b) Data records shall be maintained of all failure/defect reports received from the Supplier's during their development activities; and
 - (c) Failure/defect reports received from the Purchaser or Supplier during the Build and Initial in-Service Phase operational activities, which require Supplier investigation, shall also be used to maintain data records. These data records shall include as a minimum:
 - (i) Equipment identification;
 - (ii) Supplier's part number;
 - (iii) modification standard;
 - (iv) serial number;

- (v) operation circumstances at the time of defect, such as:
 - a. type of test or other activity;
 - b. environmental conditions;
 - c. operating mode;
 - i. the total operating time/cycles of the equipment up to the time of defect;
 - ii. detailed symptoms of defect;
 - iii. identification of defective components;
 - iv. Defect/failure description;
 - v. cause of defect (i.e. establishing the root cause);
 - vi. Rectification action;
 - vii. Proposed corrective action to prevent recurrence of Defect and corrective action schedule (**NOTE:** a corrective action means a design change not a repair);
 - viii. The embodied corrective action and the proof of this action i.e. ECN, ECR, etc.
- 16 A Pattern Defect/Failure Register shall be raised, if a pattern defect (being the simultaneous occurrence of two (2) or more Defects/failures of the same part in identical or equivalent application which are caused by the same basic failure mechanism) is identified throughout the operation of DRACAS, then corrective action shall be proposed by the Supplier to the Purchaser to eliminate repetition of the Defect.
- 17 If applicable the Supplier shall establish a Failure/Defect Review Board.
- 18 The Failure/Defect Review Board shall:
 - (a) Comprise of representatives of all relevant departments to ensure that all reports are thoroughly investigated in a timely manner; and
 - (b) Make available all Data records for review by the Purchaser and Canada at subsequent Project Reviews (see Part 2 (Project Management) of Schedule D1 (SOW).

Document Identifier	Number: [* insert VSY Document #]				Rev: 1
Title:	Operations SOW			Ship applicability:	All
Document Owner: [* insert name]	Document Approver: [* insert name]				
Master Template Ref:	Schedule D1 Part 6 (Operations) SOW			Project: [*insert name]	
Type	Organisation	Area	Supplier	VSY Supplier Code	SWBS
SOW	Operations	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 6

Operations

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D1.P6.1 Introduction

1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).

2 Unique definitions relevant to this document are:

Installation Inspection Audit means the audit undertaken to ensure that the installation and testing of the Equipment, and equipment, sub-systems and systems supplied by other suppliers to the Purchaser, are sufficiently ready to proceed with setting the Equipment to work;

Operations and Ship Build Team means the Purchaser's operations and ship build team;

Schedule of Activities means the necessary activities, tasks and events to be completed by the Supplier in order to: (a) manufacture, apply, install, update, repair and/or replace the Equipment (or an Item of the Equipment) on a Ship; and/or (b) set to work, commission, test and trial the Equipment (or an Item of the Equipment) on a Ship (it is a subset of the Subcontract Master Schedule (see Part 2 (Project Management) of Schedule D1 (SOW));

Take On Meeting means one or more Meetings held among the Supplier, the Purchaser, the Customer, the End User, representatives of the Classification Society, other suppliers to the Purchaser and interested third parties, to ensure that all stakeholders are aware of, and agree to, the Schedule of Activities; and

Wash Up Meeting means one or more Meetings held among the Supplier, the Purchaser, the Customer, the End User, representatives of the Classification Society, other suppliers to the Purchaser and interested third parties, to document the completion status of the Schedule of Activities and any Actions Items arising.

3 The Project is divided into two phases, namely:

- (a) Phase 1 – The Design Phase; and
- (b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices)).

4 This SOW is divided into three sections, namely:

- (a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);
- (b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and
- (c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A – GENERAL

D1.P6.2 General

This SOW defines specific tasks to be performed by the Supplier relating to: (a) supporting the Purchaser installing the Equipment (or Items of the Equipment) on a Ship; or (b) manufacturing, applying, installing, etc... the Equipment (or Items of the Equipment) on the Ship (if specifically required by this SOW); (c) touching-up, repairing and/or replacing the Equipment (or Items of the Equipment) damaged or lost by the Purchaser; and (d) supporting the Purchaser integrating the Equipment into systems and sub-systems supplied by other suppliers to the Purchaser.

D1.P6.3 Security

The Supplier's obligations regarding security clearance of its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents are covered in Part 9 (Security) of Schedule D1 (SOW).

D1.P6.4 Attendance on Purchaser's Premises

The Supplier's obligations regarding attendance by its employees, contract labour, Sub-subcontractors, consultants, representatives and/or agents at the Purchaser's Premises, a Warehouse or a Ship are covered in Part 2 (Project Management) of Schedule D1 (SOW).

D1.P6.5 Health, Safety and the Environment

The Supplier's obligations regarding Health, Safety and the Environment while its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents attend the Purchaser's Premises, a Warehouse, or a Ship are covered in Part 10 (HSE) of Schedule D1 (SOW).

D1.P6.6 Installation Instructions

The Supplier shall prepare and deliver Installation Instructions in accordance with SDRL OPS201 and DID OPS201. The Installation Instructions shall also identify all necessary special tools and test equipment, jigs, fixtures, templates, lifting gear, beams, etc... required by the Purchaser to install the Equipment (see also D1.P6.102.2).

D1.P6.7 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P6.50 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P6.100 Take On Meetings

- 1 Prior to commencing Work at the Purchaser's Premises, a Warehouse or on board a Ship, the Supplier shall attend a Take On Meeting to present to all stakeholders in attendance (e.g. the Purchaser, the Customer, the End User, representatives of the Classification Society, other suppliers to the Purchaser and interested third parties):
 - (a) what activities are intended to be undertaken (e.g. installing the Equipment (or Items of the Equipment); support to installing the Equipment; repair or replacement of the Equipment (or Items of the Equipment); inspecting the installation of the Equipment, etc...) in support of the Purchaser's schedule of work;
 - (b) when the activities are to be undertaken;
 - (c) how the activities are to be undertaken (i.e. are 'method statements' required to be prepared and delivered in accordance with the requirements of Part 10 (HSE) of Schedule D1 (SOW));
 - (d) where the activities are to be undertaken;
 - (e) identification of any dependencies to complete the intended Work (e.g. electrical power, ventilation, craning, jigs, special tools, etc...);

- (f) how the activities to be undertaken are to be co-ordinated with the Purchaser's activities and those of the Customer, the End User, representatives of the Classification Society, other suppliers to the Purchaser and interested third parties; and
 - (g) how the activities to be undertaken are to be assessed as being 'complete'.
- 2 There may be a number of Take on Meetings dependent upon the number of distinct, time related, Schedule of Activities.
- 3 At the conclusion of each Take on Meeting, or as soon as practicable thereafter, the attending parties will agree a Schedule of Activities setting out: (a) the activities to be undertaken by the Purchaser (if any); (b) the Work to be performed by the Supplier; (c) the activities to be performed by the Customer, the End User, representatives of the Classification Society, other suppliers to the Purchaser and interested third parties, (as applicable); (d) the agreed dates for completing the activities; and (e) how the activities will be assessed as being 'complete'. The Schedule of Activities shall be a subset of the Supplier's Subcontract Master Schedule (see Part 2 (Project Management) of Schedule D1 (SOW)) and the agreed completion dates for the activities shall be equivalent to Delivery Dates.
- 4 The Supplier shall prepare and deliver Status Reports against the Schedule of Activities in accordance with Part 2 (Project Management) of Schedule D1 (SOW). A high level summary of progress against each successive Schedule of Activities shall also appear in the Project Reports and Project Reviews, as applicable (see Part 2 (Project Management) of Schedule D1 (SOW)).

D1.P6.101 Wash Up Meetings

- 1 Following the completion of the Schedule of Activities, the Supplier shall attend a Wash Up Meeting to present to all stakeholders in attendance (e.g. the Purchaser, the Customer, the End User, representatives of the Classification Society, other suppliers to the Purchaser and interested third parties), the following:
- (a) activities accomplished; and
 - (b) activities not accomplished, the associated proximate causes, and forecast 'planned completion dates'.
- 2 In the event the proximate causes for activities not being accomplished is due to events beyond the reasonable control of the Supplier, the Supplier will not be required to prepare and deliver a Red Flag Report and Recovery Plan in accordance with Part 2 (Project Management) of the Schedule D1 (SOW)). The Operations Authority, acting reasonably and in good faith, will determine whether a cause is, or is not, proximate, and whether the event was, or was not, in the reasonable control of the Supplier. The Operations Authority will advise the Supplier of his/her determination in writing. In the event the Supplier does not agree with the written determination made by the Operations Authority, the Supplier shall prepare and deliver an Objection Advice in accordance with Part 2 (Project Management) of Schedule D1 (SOW).
- 2 The Parties will sign Minutes of each Wash Up Meeting evidencing the activities that has been completed, matters outstanding, issues raised, lessons learned for the future, etc... The Supplier shall prepare and deliver the Minutes in accordance with Part 2 (Project Management) of Schedule D1 (SOW)).
- 3 There may be a number of Wash Up Meetings dependent upon the number of distinct, time related, Schedule of Activities.
- 4 The Supplier will maintain the Action Item and Issues Excel spreadsheet or Access database in accordance with Part 2 (Project Management) of Schedule D21 (SOW).

D1.P6.102 Support to Installation

Upon receipt of a Call Off Instruction issued by the Subcontract Authority in accordance with Part 2 (Project Management) of Schedule D1 (SOW), the Supplier shall, at the agreed Charge Out Rates set out in section B of Schedule G2 (Price Itemisation, Charge Out Rates and Option Prices), attend the Purchaser's Premises and/or one or more Ships and assist and support the Purchaser to install the Equipment (or an Item of the Equipment).

D1.P6.103 Installation Inspection Audit

- 1 Upon receipt of a Call Off Instruction issued by the Subcontract Authority in accordance with Part 2 (Project Management) of Schedule D1 (SOW), the Supplier shall, at the agreed Charge Out Rates set out in section B of Schedule G2 (Price Itemisation, Charge Out Rates and Option Prices), attend the Ship to conduct an Installation Inspection Audit.
- 2 In the event that the Supplier is required to attend a Ship in accordance with section 1, the Supplier shall prepare and deliver an Installation Certificate in accordance with SDRL OPS202 and DID OPS202.

D1.P6.104 On Site Facilities and Services

The Purchaser will provide the Supplier the facilities set out in section B of Appendix F of the Articles of Agreement at no cost to the Supplier.

D1.P6.105 Jigs, Tools and Test Equipment

- 1 The Supplier shall supply at its own expense, all necessary common and/or special tools and test equipment, jigs, fixtures, templates, lifting gear, beams, etc... to perform the Work at the Purchaser's Premises, Warehouse or a Ship.
- 2 The Supplier shall ensure that all special and/or common tools and test equipment required to satisfy the obligation set out in section 1 are adequately maintained, calibrated and certified as applicable. The provision, maintenance, calibration and certification are within the Price.

D1.P6.106 Installation and Drilling Jigs

- 1 The Supplier shall provide, on a loan and return basis, all installation devices required by the Purchaser to install the Equipment (or Items of the Equipment) on board the Ship and identified in the Installation Instructions (see section D1.P6.6 (Installation Instructions)).
- 2 All installation aids and devices described in section 1 shall be listed in Schedule E (On Loan Items List). The On Loan Items will be cared for by the Purchaser and returned (at the Purchaser's cost) to the Supplier after use. The provision of the installation devices and aids are within the Price.

D1.P6.107 Test Report

- 1 In the event that Supplier undertakes any test of the Equipment (or Item of Equipment) after it installed on a Ship that is not otherwise reported to the Purchaser as a Data Item under either Part 3 (Engineering) or Part 7 (Commissioning, Test and Trials) of Schedule D1 (SOW), the Supplier shall prepare and deliver a Test Report of such a test in accordance with SDRL OPS203 and DID OPS203, the latter amended as follows:
 - (a) title changed from 'Test Report' to 'Test Report – 'x'' where 'x' defines the particular test undertaken.

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Document Owner:	[* insert name]	Document Approver:	[* insert name]		
Master Template Ref:	Schedule D1 Part 7 (Commissioning) SOW			Project:	[*insert name]
Type	Organization	Area	Supplier	VSY Supplier Code	SWBS
SOW	Commissioning	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 7

Commissioning, Test and Trials

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D1.P7.1 Introduction

1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).

2 Unique definitions relevant to this document are:

Combined Acceptance Group means the collective noun for the Purchaser, Customer and the Classification Society;

Commissioning Documentation means the Purchaser's test forms that records the pre-requisites for setting to work, the performance parameters of the Equipment and Provisional Acceptance 'sign off' from the Test and Trials Team;

HAT(E) means Harbour Acceptance Trials of the Equipment;

HAT(S) means Harbour Acceptance Trials of the Equipment as part of a Ship's system;

High Voltage, when used in conjunction with health and safety statements, means any voltage at or above 1,000 volts, and therefore requiring special consideration for Work in the vicinity of the Equipment and cables;

Installation Audit means the audit undertaken to ensure that the installation and testing of the Equipment, and equipment, sub-systems and systems supplied by other suppliers to the Purchaser, are sufficiently ready to proceed with setting the Equipment to work;

LBTS means Land Based Test Site, a dedicated facility provided to test and validate the operation and inter-operation of communication and/or mission systems by duplicating/simulating the Equipment/Systems' planned operational installation and utilization;

SAT(E) means Sea Acceptance Trials of the Equipment;

SAT(S) means Sea Acceptance Trials of the Equipment as part of a Ship's system;

Schedule of Activities means the necessary activities, tasks and events to be completed by the Supplier in order to install, repair and/or replace Items of the Equipment, set the Equipment to work, and test and trial the Equipment at the Purchaser's Premises and/or a Ship;

Take On Meeting means one or more Meetings held among the Supplier, the Purchaser, the Customer, the End User and other suppliers to the Purchaser, to ensure that all stakeholders are aware of, and agree to, the Schedule of Activities;

Test and Trials Team means the Purchaser's commissioning and test and trials team; and

Wash Up Meeting means one or more Meetings held among the Supplier, the Purchaser, the Customer, the End User and other suppliers to the Purchaser, to document the completion status of the Schedule of Activities.

3 The Project is divided into two phases, namely:

(a) Phase 1 – The Design Phase; and

(b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices)).

4 This SOW is divided into three sections, namely:

(a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);

- (b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and
- (c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

D1.P7.2 General

- 1 This SOW defines specific tasks to be performed by the Supplier relating to:
 - (a) preservation, protection, maintenance and repair of the Equipment, setting the Equipment to work, and testing and trialing the Equipment to demonstrate that it meets the Purchaser's Technical Requirements and the Supplier's Specifications;
 - (b) supporting the Purchaser in testing and trialing systems and sub-systems supplied by other suppliers to the Purchaser in which the Equipment forms part at the Charge Out Rates set out in section B of Schedule G2 (Price Itemization, Charge Out Rates and Option Prices); and
 - (c) supporting the Purchaser in testing and trialing the Ship as a whole at the Charge Out Rates set out in section B of Schedule G2 (Price Itemization, Charge Out Rates and Option Prices).

D1.P7.3 Delivery of Data Items

- 1 All Data Items shall be prepared and delivered in accordance with Part 1 (Introduction) of Schedule D1 (SOW), this Part 7 (Commissioning, Test and Trials) of Schedule D1 (SOA) and Part 7 (Commissioning, Test and Trials) of Schedule D2 (SDRL) and Part 7 (Commissioning, Test and Trials) of Schedule D3 (DIDs).
- 2 In the event the Supplier requires any clarification or guidance with respect to the preparation of a Data Item, the Supplier shall consult with the Commissioning Authority (see Appendix E of the Articles of Agreement) prior to delivering the Data Item.

D1.P7.4 Security

The Supplier's obligations regarding security clearance of its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents are covered in Part 9 (Security) of Schedule D1 (SOW).

D1.P7.5 Attendance on Site

- 1 The Supplier's obligations regarding attendance at the Purchaser's Premises, the Purchaser's Warehouse and/or a Ship, by its employees, contract labor, Sub-subcontractors, representatives, consultants and/or agents are covered in Part 2 (Project Management) of Schedule D1 (SOW).
- 2 The Purchaser's authority for Call Off Instructions and attendance at the Purchaser's Premises and/or a Ship under this SOW is the Commissioning Authority (or his/her delegate as communicated to the Supplier in writing). The Supplier shall confirm receipt of each COI in writing with a copy sent to the Subcontract Authority.
- 3 The Supplier shall co-operate with the Test and Trials Team on all activities relating to the Equipment including fault diagnosis.
- 4 The Supplier shall provide engineering support to the Test and Trials Team seven (7) calendar days a week as and if required. In the event the support relates to a Defect in the Equipment, such support shall be at the Supplier's cost and risk. For the purposes of this section, 'support' means, in the first instance, communication by telephone, video conference and email followed by attendance at the Purchaser's Premises and/or on board a Ship as instructed by the Purchaser. In the event the support relates to diagnosing faults or problems relating to other equipment,

subsystems or systems supplied by other suppliers to the Purchaser, or the Ship as a whole, the co-operation and engineering support shall be at the Charge Out Rate set out in section B of Schedule G2 (Price Itemization, Charge Out Rates and Option Prices).

- 5 The Supplier shall provide an English speaking 'Commissioning Manager' or 'Service Engineer' to attend the Purchaser's Premises or a Ship as the case may be for the duration of the Schedule of Activities described in this SOW.
- 6 The Purchaser will provide the Supplier the facilities set out in section B of Appendix F of the Articles of Agreement at no cost to the Supplier.

D1.P7.6 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P7.50 Preservation and Maintenance Instructions

- 1 The Supplier shall preserve, protect and maintain the Equipment, On Loan Items (if any) and SPT (if any) for the period beginning from EDS until the point in time the Purchaser takes possession of the Equipment, On Loan Items or SPT (either at the Point of Delivery or the Point of Pick Up – see Part 12 (Logistics) of Schedule D1 (SOW)).
- 2 The Purchaser will preserve, protect and maintain the Equipment in accordance with Part 12 (Logistics) of Schedule D1 (SOW) for the period beginning from taking possession of the Equipment (as described in section 1 above) until the Equipment is placed on board a Ship. The Purchaser will preserve, protect and maintain any SPT for the period beginning from taking possession onwards. The Purchaser will preserve, protect and maintain On Loan Items for the period beginning from taking possession to the point of return to the Supplier.
- 3 The Purchaser will preserve, protect and maintain the Equipment in accordance with the Preservation, Protection and Maintenance Instructions prepared and delivered by the Supplier in accordance with SDRL COM206 and DID COM206, for the period beginning from placing the Equipment on board a Ship until the commencement of setting the Equipment to work.
- 4 The Supplier shall preserve and maintain the Equipment for the period beginning from the commencement of the Supplier setting the Equipment to work until Provisional Acceptance of the Equipment.
- 5 The Purchaser shall preserve and maintain the Equipment in accordance with maintenance instructions provided by the Supplier under Part 4 (ILS) of Schedule D1 (SOW), for the period beginning from Provisional Acceptance of the Equipment until handover of the Ship to the Customer in which the Equipment forms part.

D1.P7.51 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P7.100 Health, Safety and the Environment

- 1 The Supplier's obligations regarding Health, Safety and the Environment while its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents attend the Purchaser's Premises, the Purchaser's Warehouse and/or Ship are covered in Part 10 (HSE) of Schedule D1 (SOW).
- 2 Responsibility for the oversight and management of making equipment and systems safe to work on resides with the Purchaser. The Supplier shall liaise with the Test and Trials Team for isolation (i.e. 'lock-out') associated with set to work or maintenance of the Equipment.

D1.P7.101 Take On Meetings

- 1 Prior to commencing Work at the Purchaser's Premises and/or a Ship, the Supplier shall attend a Take On Meeting to present to all stakeholders in attendance (e.g. the Purchaser, the Customer, the End User, other suppliers to the Purchaser, etc...):
 - (a) what activities are intended to be undertaken (e.g. repair and maintenance of the Equipment, modification of the Equipment, setting the Equipment to work, HAT(E), HAT(S), SAT(E), etc...);
 - (b) when the activities are to be undertaken (i.e. a detailed schedule which supports the Supplier's Level 1 Schedule (see Schedule F) and forms part of the Supplier's Subcontract Master Schedule (**SMS**) (see Part 2 (Project Management) of Schedule D1 (SOW) etc...);
 - (c) how the activities are to be undertaken (i.e. are 'method statements' required to be prepared and delivered in accordance with the requirements of Part 10 (HSE) of Schedule D1 (SOW));
 - (d) where the activities are to be undertaken;
 - (e) identification of any dependencies to complete the intended Work (e.g. access, internal lifting equipment, electrical power, ventilation, craning, scaffolding, jigs, special tools, etc...);
 - (f) how the activities to be undertaken are to be co-ordinated with the Purchaser's activities and the activities of other suppliers to the Purchaser, the Customer, Classification Society, etc...; and
 - (g) how the activities to be undertaken are to be assessed as being 'complete' ('complete' does not mean 'accepted').
- 2 There may be a number of Take On Meetings dependent upon the number of distinct, time related, Schedules of Activities.
- 3 At the conclusion of each Take On Meeting, or as soon as practicable thereafter, the Parties will agree a Schedule of Activities relative to that Take On Meeting setting out:
 - (a) the activities to be undertaken by the Purchaser (if any);
 - (b) the Work to be performed by the Supplier;
 - (c) the activities to be performed by the Customer, representatives of the Classification Society, other suppliers to the Purchaser, etc... (as applicable); and
 - (d) how the Work will be assessed as being 'complete' (the Schedule of Activities shall be a subset of the Supplier's SMS (see section D1.P2.100.2 of Part 2 (Project Management) of Schedule D1 (SOW)).
- 4 The Supplier shall report progress against achievement of the Schedule of Activities in accordance with section D1.P2.100.6 of Part 2 (Project Management) of Schedule D1 (SOW).

D1.P7.102 Wash Up Meetings

- 1 Following the completion of each Schedule of Activities, the Supplier shall attend one or more Wash Up Meetings to present to all stakeholders in attendance (e.g. the Purchaser, the Customer, the End User, Classification Society, other suppliers to the Purchaser, etc...) the following:
 - (a) Work accomplished;

- (b) Work not accomplished with forecast 'planned completion dates';
 - (c) identity of the Purchaser's Technical Requirements, if any, 'signed off' by the Purchaser;
 - (d) identity of the Supplier's requirements, if any, 'signed off' by the Purchaser (see Schedule C (Supplier's Specifications)); and
 - (e) Spares borrowed by the Supplier (if any) and planned replacement dates.
- 2 The Parties will 'sign off' Minutes of each Wash Up Meeting evidencing the Work that has been completed, matters outstanding, issues raised, lessons learned for the future, etc... The Supplier shall prepare and deliver Minutes of the Wash Up Meetings in accordance with section D1.P2.21 of Part 2 (Project Management) of Schedule D1 (SOW).
- 3 There may be a number of Wash Up Meetings dependent upon the number of distinct, time related, Schedule of Activities.

D1.P7.103 Plan of the Day Meetings

During the setting to work of the Equipment and commissioning activities, the Supplier shall provide a suitable representative to attend the Purchaser's 'Operations' Department Plan of the Day' (**POD**) Meeting to ensure that all tests, trials and commissioning activities within the Supplier's scope of Work are coordinated and de-conflicted with other Ship build activities, activities of other suppliers to the Purchaser, and carried out in a safe and efficient manner.

D1.P7.104 Action Items

- 1 The Supplier shall maintain Action Items and issues arising from all Meetings (e.g. Take on Meetings, Wash Up Meetings, etc...) using the Action Item and Issues Excel spreadsheet or Access Database described in section D1.P2.22 of Part 2 (Project Management) of Schedule D1(SOW).
- 2 The Supplier shall generate an Action Item and Issues Status Report to be included in the Status Reports (if called for), Progress Reports and Project Reviews in accordance with Part 2 (Project Management) of Schedule D1 (SOW).

D1.P7.105 Commissioning Documentation

- 1 The Supplier shall, in co-operation with the Purchaser, develop and implement a comprehensive acceptance program to progressively demonstrate that the Equipment and has been designed, manufactured and installed to meet the Purchaser's Technical Requirements, the Supplier's Specifications and fully complies with the requirements of the Classification Society, Transport Canada and other Regulatory Bodies.
- 2 The Purchaser shall supply the Supplier with its Commissioning Documentation format and indicate which part or parts are to be completed by the Supplier and submitted to the Purchaser.
- 3 Upon receipt of the Purchaser's Commissioning Documentation format, the Supplier shall prepare and deliver:
- (a) Commissioning Documentation (Test Agenda) in accordance with SDRL COM211 and DID COM211.
 - (i) The Supplier shall implement Test Agendas for all tests, trials, and inspections that clearly describe the methodologies and procedures to be used for each test, trial, and inspection. The Test Agendas shall include all pass/fail criteria and how these criteria will be measured, including the test and recording equipment that will be used, and records showing its calibration and maintenance.
 - (ii) Each Test Agenda shall have provisions to document when any given step did not produce the expected results, what was done to correct the condition and continue with the commissioning or abort the commissioning procedure for more advanced troubleshooting.

- (b) The Supplier shall prepare and deliver Start Up / Shut Down and Operational Procedures in accordance with SDRL COM214 and DID COM214.
- 5 The Supplier shall (where required) support the Purchaser in preparing Commissioning Documentation and agree its content. The Supplier's agreement shall be evidenced by its signature on the Commissioning Documentation.
- 6 Lessons learned shall be incorporated into the Commissioning Documentation following each commissioning activity.

D1.P7.106 FATs and Setting To Work

- 1 The Supplier shall conduct Factory Acceptance Tests (**FATs**) for all Equipment (see the Inspection and Test Plan covered in section P1.P5.105 of Part 5 (Quality Assurance) of Schedule D1 (SOW)).
- 2 In the event that the End User is the Canadian Department of National Defence (**DND**), the Supplier shall conduct FATs at a DND approved Land Based Test Facility (**LBTS**) for all electronic Equipment requiring integration, Link Testing or certification. In the event that the End User is other than DND, this section D1.P7.106.2 shall be deemed 'not used'.
- 3 The Supplier shall add the following requirements to the FAT Schedule (see Part 3 (Engineering) of Schedule D1 (SOW)):
 - (a) the systems, machinery and equipment identified through the Subcontractor's noise control program that are considered noise-critical and must undergo testing of noise and vibration characteristics;
 - (b) where a test is required by the Classification Society or Regulatory Bodies, the Supplier shall inform the Quality Authority in order that the Purchaser may witness the test in conjunction with the Regulatory Bodies and Classification Society's surveyors;
 - (c) all basic materials must be supplied with documentation to certify fitness for inclusion in the Ship;
 - (d) all prefabricated or pre-assembled non-active items must be supplied with documentation to certify fitness for inclusion into the Ship along with any proof or load tests; and
 - (e) all active Equipment or Items of the Equipment must be supplied with documentation indicating that the Equipment, or Items of the Equipment, have been satisfactorily demonstrated at the manufacturer's premises and has achieved the specified performance.
- 4 The Supplier shall provide the Purchaser with advance advice of all inspections, tests and trials in accordance with section D1.P5. 105 of Part 5 (Quality Assurance) of Schedule D1 (SOW).
- 5 In the event that the End User is DND, the Supplier shall develop a Trials Program to conform with the directions, guidance and instructions contained in Part 9, sections 1 and 2 of C-03-005-012/AM-001, "Naval Materiel Management System (**NaMMS**) Manual", as applicable to new ship construction. In the event that the End User is other than DND, this section D1.P7.106.5 shall be deemed 'not used'.
- 6 The Supplier shall, in conjunction with the Test and Trials Team, set the Equipment to work. This shall include proving all output signals for the Equipment connected to the Ship's 'Integrated Platform Management System' (if applicable to the Equipment) and the Ship's control and instrumentation (**C&I**). In addition, the Supplier shall re-calibrate all sensors and gauges forming part of the Equipment (as appropriate) during setting to work in accordance with the Supplier's standard maintenance procedures. The Supplier is responsible for the provision of all instrumentation and data collection equipment necessary to obtain and record the Data required to assess the performance of the Equipment undergoing each test or trial. Instrumentation used in testing shall be checked for compliant calibration before each test. The calibration records must be submitted to Canada's 'Inspection Authority' and the Purchaser's QA Authority upon written request.

- 7 In the event that setting the Equipment to work requires, by law, 'method statements' and 'risk assessments', the Supplier shall prepare and deliver these in accordance with section D1.P5.103 of Part 10 (HSE) of Schedule D1 (SOW).
- 8 Following completion of each setting to work activity, the Supplier shall ensure that the Master Records Index (see Part 3 (Engineering) of Schedule D1 (SOW)) is configured and an up-to-date and, if necessary, an up-issued version must be submitted to the Purchaser.
- 9 Where there are specific performance requirements for the Equipment, the Supplier shall test and trial the Equipment in the presence of Canada's Inspection Authority, Classification Society, applicable Regulatory Bodies, and the Purchaser to objectively demonstrate that the specified performance requirements have been achieved and that the Equipment performs as required by the Subcontract, Classification Society and/or applicable Regulatory Bodies.
- 10 Where there are no specific performance requirements for the Equipment, the Supplier shall nevertheless demonstrate the functionality, compatibility and conformance of the Equipment to the Subcontract requirements to the reasonable satisfaction of the Purchaser.
- 11 The Supplier shall present operation of the Equipment to the Test and Trials Team through pre-authorised Commissioning Documentation within the durations set out in Appendix B of the Articles of Agreement. The Purchaser shall, if required, arrange external attendance to witness trials on a non-interfering and non-delaying basis. All tests must be completed on individual components of the Equipment and all Defects corrected to the reasonable satisfaction of the Purchaser prior to the commencement of any trial of that Equipment. The Purchaser may waive attendance at a specific test, trial, or inspection by informing the Supplier in writing.
- 12 The Supplier shall conduct a Test Readiness Review (**TRR**) seven (7) Working Days before each HAT(E). The Supplier shall conduct HAT(E) of the Equipment.
- 13 The Supplier shall conduct a TRR seven (7) Working Days before each SAT(E) in the event that a SAT(E) is required pursuant to Part 3 (Engineering) of Schedule D1 (SOW).
- 14 The Supplier shall provide assistance and support to the Test and Trials Team during HATs and SATs of equipment and systems provided by other suppliers of the Purchaser. This assistance shall include operation of the Equipment in conjunction with suitably qualified members of the Test and Trials Team. Assistance under this section shall be provided at the Charge Out Rates set out in section B of Schedule G2 (Price Itemization, Charge Out Rates and Option Prices).
- 15 The Supplier shall be responsible for the provision of any specialty resources, including installation and check-out (**INCO**) spares, required to conduct all Acceptance Events relating to the Equipment (e.g. setting to work, HAT(E), SAT€, etc...). All INCO spares are within the Price.

D1.P7.107 Preservatives, Fluids, Oils, Tools and Test Equipment

- 1 As part of the Price, and at its own expense, the Supplier shall supply all necessary common and specialist tools and test equipment, special to type lifting beams and equipment, jigs, fixtures and templates etc, in order that the Supplier can carry out the Work at the Purchaser's Premises and/or a Ship.
- 2 First fill of lubrication oils, cooling water, inhibitors, hydraulic oils, etc... are to be provided by the Supplier. These are within the Price. Fuel Oil shall be provided by the Purchaser at its cost.
- 3 All tools and test equipment used by the Supplier are to remain in calibration throughout their use and copies of the calibration certification and test certification are to be provided to the Purchaser, upon written request, for inclusion with the Purchaser's Inspection Test Certification records.

D1.P7.108 Commissioning, Test and Trials

- 1 Commissioning activities commence following the successful completion of an Installation Inspection Audit performed in accordance with section D1.P6.106 of Part 6 (Operations) of Schedule D1 (SOW).
- 2 The Supplier shall present operation of the Equipment to the Test and Trials Team through Commissioning Documentation prepared and delivered in accordance with SDRL COM204 and DID COM204 and SDRL COM211 and DID COM 211. The durations for the test and trials set out in the Commissioning Documentation and Detailed Commissioning Plan shall be equal to or less than those durations set out in section B of Appendix F of the Articles of Agreement.
- 3 The Supplier shall assist and provide support to the Test and Trials Team in conducting HAT(E) of the Equipment within the durations set out in section B of Appendix F of the Articles of Agreement.
- 4 If required by Part 3 (Engineering) of Schedule D1 (SOW), the Supplier shall assist and provide support to the Test and Trials Team in conducting SAT(E) of the Equipment within the durations set out in section B of Appendix F of the Articles of Agreement.
- 5 The Supplier shall, at the request of the Purchaser, support the Test and Trials Team to complete the tasks described in section 3 and section 4 above for durations in excess of those set out in section B of Appendix F of the Articles of Agreement at the Charge Out Rates set out in Schedule G2 (Price Itemization, Charge Out Rates and Option Prices).
- 6 The Supplier shall implement the Work at the Purchaser's Premises and/or on board Ship within the agreed office, storage and services constraints set out in section B of Appendix F of the Articles of Agreement.

D1.P7.109 Commissioning, HAT and SAT Spares

- 1 The Supplier shall supply, within the Price, those Commissioning Spares identified in Schedule E. These are in addition to the INCO spares described in section in D1.P7.106.15.
- 2 Where necessary, the Purchaser may request additional Spares to those purchased and supplied under the Subcontract (see Schedule E of the Subcontract). In such circumstances, the Supplier will use reasonable commercial efforts to supply these spares by the fastest possible means.
- 3 In the event the Supplier requires an INCO spare to support its setting to work, commissioning, and test and trials program, it may prepare and deliver a Spares Request in accordance with SDRL COM215 and DID215. In the event that Purchaser agrees to the request, the Supplier shall:
 - (a) replace the borrowed spare with a New spare as soon as practicable, but, in any event, no later than thirty (30) calendar days before delivery of the Ship in which the spare was used; and
 - (b) the Purchaser will raise a Defect against the Equipment and this shall remain open until the replacement New spare is received, inspected and inventoried by the Purchaser.

D1.P7.110 Equipment Operation

- 1 The Supplier shall, in conjunction with suitably qualified Test and Trials Team personnel, operate the Equipment during setting to work, HAT(E) and SAT(E) of the Equipment as set out in SDRL COM204 and DID COM204.
- 2 The Supplier shall, at the written request of the Subcontract Authority, operate the Equipment and support and assist the Purchaser in conducting the HAT(S) and SAT(S) at the agreed Charge Out Rates set out in section B of Schedule G2 (Price Itemisation, Charge Out Rates and Option Prices).

D1.P7.111 Fault Diagnosis

- 1 The Supplier shall, during the time that it is setting the Equipment to work, commissioning and conducting HATs and SATs, participate in fault diagnosis of the Equipment and sub-systems and systems in which the Equipment forms part.
- 2 The Supplier shall, at times other than those described in section 1 above, at the request of the Subcontract Authority, participate in fault diagnosis of the Equipment and interfaces with sub-systems and systems in which it forms part at the agreed Charge Out Rates set out in section B of Schedule G2 (Price Itemization, Charge Out Rates and Option Prices).

D1.P7.112 Modifications to the Equipment

- 1 In the event that the Equipment is required to be modified (including any embedded Software) after the FAT, it shall only be modified by the Supplier in accordance with the change management process set out in Schedule A (General Conditions) and Part 2 (Project Management) of Schedule D1 (SOW). Where implementing a modification and authorised Change Order is likely to delay setting the Equipment to work, the Supplier shall consult the Purchaser's Test and Trials Team before commencing the Work.
- 2 For the avoidance of doubt, the Supplier is reminded that all modifications to the Equipment and Spares after the FAT must be:
 - (a) authorised by the Supplier's configuration management system,
 - (b) authorised by a Change Order;
 - (c) reflected in the Supplier's Master Record Index; and
 - (d) comply with the Supplier's Compatibility of Work obligation.

D1.P7.113 Shelf Life and Lived Items

- 1 The Supplier shall prepare, deliver and maintain a Shelf Life and Lived Items Register relating to the Equipment in accordance with SDRL COM205 and DID COM205. The register must include, but is not be limited to, flexible bellows, flexible hoses, filters, cartridges, belts, batteries, rubber seals, gauges, relief valves, pressure vessels etc...
- 2 The Supplier shall, at its cost and risk, replace all Shelf Life and Lived Items to comply with the Shelf Life Period and Lived Item Period set out in section 1 of the Articles of Agreement.

D1.P7.114 Planned Maintenance of the Equipment

- 1 The Supplier shall prepare, deliver and maintain Maintenance Instructions relating to the Equipment in accordance with SDRL COM106 and DID PM106 and SDRL COM209 and DID COM209.
- 2 The Supplier shall carry out all repair and maintenance of the Equipment throughout the Build Phase(s) up to Provisional Acceptance of the Equipment and inform the Test and Trials Team prior to attending the Purchaser's Premises, a Ship and/or Warehouse to carry out planned maintenance of the Equipment.
- 3 The Supplier shall maintain records of all maintenance and repair activities carried out on the Equipment by it, or on its behalf, and present to the Purchaser if and when requested in writing (e.g. prior to HATs and SATs) or in any case prior to delivery of each Ship to the Customer.
- 4 **The Supplier shall prepare and deliver the Maintenance Schedule and Instructions following Provisional Acceptance of the Equipment in accordance with the SDRL.**

D1.P7.115 Training – Purchaser’s Personnel

- 1 The Supplier shall conduct a Training Needs Analysis in accordance with SDRL COM207 and DID COM207.
- 2 The Training Needs Analysis shall identify any training required for the Test and Trials Team so as to enable the Test and Trials Team to safely set to work and operate the Equipment both through HATs and SATs of the Ship and conduct routine maintenance tasks that are otherwise not part the Statement of Requirements. The Training Needs Analysis shall be conducted no later than six (6) months prior to the scheduled commencement of commissioning, test and trials activities for the first Ship. All training shall be conducted at the Supplier’s facilities.
- 2 The Supplier shall prepare and deliver a Detailed Course Syllabus and Lesson Plan in accordance with SDRL COM208 and DID COM208.
- 3 The Supplier shall conduct the training of the Purchaser’s Test and Trials Team, at the Supplier’s facilities, no later than three (3) months prior to the scheduled test and trials activities for each Ship.
- 4 The Supplier shall provide training to members of the Purchaser’s Test and Trials Team (at the agreed Charge Out Rates set out in Schedule G2 (Price Itemization, Charge Out Rates and Option Prices)).

D1.P7.116 Demarcation of Work

The Supplier shall work with the Purchaser to agree and record the ‘Demarcation of Work’ document.

D1.P7.117 Post Ship Acceptance Test and Trials

- 1 The Customer may wish to conduct test and trials following acceptance, handover or delivery of each Ship (**Post Ship Acceptance Test and Trials**).
- 2 Typical Post Ship Acceptance Test and Trials include the following:
 - (a) replenishment at sea (liquid and solid);
 - (b) cargo handling - load and discharge cargo in various scenarios and configurations;
 - (c) flight deck certification;
 - (d) mission systems certification;
 - (e) arctic trials;
 - (f) tropical trials; and
 - (g) mission systems.
- 3 In the event that the Customer wishes to conduct Post Ship Acceptance Test and Trials of the Equipment or Items of Equipment, the Supplier shall:
 - (a) verify those Technical Requirements that are operational in nature and require specific environmental conditions that can only be analysed once the Ship has been delivered;
 - (b) ensure that all required preparations for conducting the Post Ship Acceptance Test and Trials are achieved;
 - (c) plan and coordinate the Post-Acceptance Test and Trials in conjunction with the Purchaser and the End User;
- 4 All Post Ship Acceptance Test and Trials will be conducted by the End User in accordance with the End User’s ‘Trial Agenda’.

- 5 In the event that the End User is DND, the Supplier shall prepare and deliver a Post Ship Acceptance Test and Trial Report (NaMMS) in accordance with the SDRL COM216 and DID COM216.
- 6 In the event that the End User is other than DND, the Supplier shall prepare and deliver a Post Ship Acceptance Test and Trial Report in accordance with the SDRL COM217 and DID COM217.
- 7 All costs and expenses to perform the activities described in this section D1.P7.117 shall be at the agreed Charge Out Rates set out in section B of Schedule G2 (Price Itemization, Charge Out Rates and Option Prices).

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SOW	Finance	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 8

Finance

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D1.P8.1 Introduction

- 1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).
- 2 Unique definitions relevant to this document are:

None
- 3 The Project is divided into two phases, namely:
 - (a) Phase 1 – The Design Phase; and
 - (b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices))).
- 4 This SOW is divided into three sections, namely:
 - (a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);
 - (b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and
 - (c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A - GENERAL

D1.P8.2 Scope

- 1 The Supplier shall prepare and deliver Payment Claims in accordance with SDRL FIN201 and DID FIN201.
- 2 The Supplier shall prepare and deliver Milestone Acceptance Certificates in accordance with FIN202 and DID FIN202.
- 3 [* insert either: The Supplier shall prepare and deliver PWGSC-TPSGC 1111 Forms in accordance with FIN203 and DID FIN203. or

The supplier shall prepare and deliver a Claim for Progress Payment in accordance with SDRL FIN204 and DID FIN204.]

D1.P8.3 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P8.50 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P8.100 Reserved

Document Identifier	Number: [* insert VSY Document #]	Rev:	1		
Title:	Security SOW			Ship applicability:	All
Document Owner:	[* insert name]	Document Approver:	[* insert name]		
Master Template Ref:	Schedule D1 Part 9 (Security) SOW			Project:	[*insert name]
Type	Organisation	Area	Supplier	VSY Supplier Code	SWBS
SOW	Security	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 9

Security

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D1.P9.1 Introduction

1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).

2 Unique definitions relevant to this document are:

CISD means Canadian Industrial Security Directorate;

Confidential means Information or Materiel which, if compromised, would be likely to work substantially against Canadian national finances or economic and commercial interests;

In Strict Confidence means all private and sensitive Information or Materiel, the unauthorised disclosure of which could be prejudicial to the interests of the Purchaser and/or the Supplier or its employees, Sub-subcontractors, representatives, consultants, and/or agents;

Materiel means goods and materials;

Non-Disclosure Agreement or **NDA** means the non-disclosure agreement attached as Attachment A to this SOW;

Not Protectively Marked means any Information or Materiel that does not attract a protective marking of Secret, Confidential or Restricted;

Restricted means Information or Materiel which, if compromised, would be likely to breach statutory restrictions on disclosure of information;

Secret means Information or Materiel which, if compromised, would be likely to cause substantial material damage to Canadian national finances or economic and commercial interests;

Security Authority means the individual identified in Appendix E of the Articles of Agreement; and

VCR means Visitor Clearance Request.

3 The Project is divided into two phases, namely:

(a) Phase 1 – The Design Phase; and

(b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices)).

4 This SOW is divided into three sections, namely:

(a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);

(b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and

(c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A - GENERAL

D1.P9.2 General

- 1 It is a fundamental principle of security that the dissemination of Protected, Confidential, Restricted or Secret Information should be no wider than is required for the efficient conduct of the business in hand and limited to those who are authorised to have access and have a need to know.
- 2 In considering security, the Supplier should address at least the following:
 - (a) disclosure;
 - (b) confidentiality;
 - (c) personnel security;
 - (d) physical security;
 - (e) document security, including transmission both internally and externally;
 - (f) Information technology / Information management security;
 - (g) destruction of Information and Materiel; and
 - (h) procedure to store Protected, Confidential, Restricted and/or Secret Information throughout the Term of the Subcontract.
- 3 There may be restrictions on access for dual and foreign nationals. That would require export control permits Accordingly, it is essential that the appropriate paperwork is submitted by the Supplier well in advance of any planned disclosure of controlled Data or controlled goods or any planned on site visit to the Purchaser's Premises, a Ship, or one or more Government establishments.
- 4 The Supplier shall ensure that its directors, officers, employees, contract labour, Sub-subcontractors, consultants, representatives and/or agents while attending the Purchaser's Premises, other Purchaser specified premises where the Work will be performed, a Ship, and/or one or more Government establishments follow the site/Ship regulations regarding security specific to that location.
- 5 The Supplier shall ensure that it has reviewed the security requirements set out in Appendix H of the Articles of Agreement.
- 6 The Supplier shall prepare and deliver a Security Plan in accordance with SDRL SEC201 and DID SEC201.

D1.P9.3 Security Clearances and Visitor Clearances

- 1 The Supplier shall hold a valid Designated Organization Screening with approved Document Safeguarding Capabilities at the Protected B level and be registered in the Canadian Controlled Goods Program. Personnel requiring access to protected information and controlled goods for the Project must individually hold a valid Reliability Status and the Canadian Government clearance (per Appendix H of the Articles of Agreement).
- 2 The Supplier shall obtain all necessary security checks and approvals for all its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents who will attend the Purchaser's Premises, a Ship, and/or one or more Government establishments, prior to such attendance.

- 3 The Supplier shall submit the Request for Visit online by completing the form at the Public Works and Government Services Canada website:

<http://iss-ssi.pwgsc-tpsgc.gc.ca/ssi-iss-services/dv-rfv-eng.html>

- 4 In the event that the Supplier may be required to work on, or within areas processing or handling 'Protectively Marked Materiel' marked Confidential and above, then, in such circumstances, the Supplier shall ensure that the additional security clearances are obtained for its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents, prior to starting such work. For planning purposes, the security clearance process to obtain Reliability Status and above (such as Secret or NATO Secret) for individual personnel can take up to six (6) months to complete.

D1.P9.4 Disclosure of and Handling of Confidential Information

- 1 The Supplier shall comply with the Non-Disclosure Agreement between the Supplier and the Purchaser attached at Attachment A to this SOW.
- 2 The Supplier must ensure that the access to, and handling requirements of, Project information are applied to the Supplier's employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents.
- 3 The Supplier shall ensure that all disclosure and security requirements required of the Supplier under the Subcontract also apply to the Supplier's Sub-subcontractors, consultants, representatives and/or agents. This includes: (a) entering into Non-Disclosure Agreements with each Sub-subcontractor, consultant, representative and/or agent; (b) ensuring each Sub-subcontractor, consultant, representative and/or agent obtains End Use Certificates; and (c) approval from the Purchaser is received **prior to** disclosing and/or permitting the Sub-subcontractor, representative, consultant and/or agent access to Project Information and/or controlled Materiel.
- 4 In the event that the Supplier has to disclose Confidential Information to a third party as described in section 2030.23 10c.(i)(A) of Annex B of Schedule A (General Conditions), it shall procure that each third party (including Supplier's Sub-subcontractors, representatives, consultants and/or agents prepare and deliver:
- (a) a Non-Disclosure Agreement in accordance with SDRL SEC203 and DID SEC203;
 - (b) an End Use Certificate in accordance with SDRL SEC204 and DID SEC204; and
 - (c) a Letter Certificate at the expiry of earlier termination of the Subcontract and/or Sub-subcontract in accordance with SDRL SEC205 and DID SEC205.

D1.P9.5 Site Specific Security Protocols

- 1 The Supplier and its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents shall adhere to all security protocols at the Purchaser's Premises, a Ship and/or Government establishment.
- 2 For co-location at the Purchaser's Premises at the Capilano Business Park, North Vancouver site, this includes:
- (a) 'Intellectual Property Awareness Briefing';
 - (b) 'Office Security Briefing' (including public, operation and security zones);
 - (c) 'Access pass (photo ID) and office security protocols'; and
 - (d) 'Operations ('Yard')) safety and security orientation'.

D1.P9.6 Advice

Advice on this SOW and related documents may be sought from the Security Authority.

D1.P9.7 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P9.51 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P9.100 Maintenance of Ship Systems

- 1 The Supplier shall not use its own laptops or other electronic devices for maintaining Ships' systems. The intent is to create and maintain an 'air gap' between external electronic devices (e.g. laptops) and all Ship's systems.

- 2 In the event the Supplier needs to link a laptop to a Ship system for maintenance as part of the Work, the Supplier shall deliver a copy of the virtual image of the maintenance software and prepare and deliver an End User Laptop Request in accordance with SDRL SEC206 and DID SEC206. The End User will provide the scrubbing station and an End User laptop on which the virtual image will be loaded and used by the Supplier. The laptop shall remain the property of the End User. The Supplier shall ensure the requirement for an End User Laptop is identified in Appendix F (Supplier's Requirements) of the Articles of Agreements.

D1.P9.101 Reserved

Attachment A
Non-Disclosure Agreement

Prior to EDS, the Purchaser to insert a signed copy of the NDA between the Supplier and the Purchaser

Document Identifier	Number: [* insert VSY Document #]				Rev: 1
Title:	Health, Safety and the Environment SOW			Ship applicability:	All
Document Owner:	[* insert name]	Document Approver:	[* insert name]		
Master Template Ref:	Schedule D1 Part 10 (HSE) SOW			Project:	[*insert name]
Type	Organisation	Area	Supplier	VSY Supplier Code	SWBS
SOW	HSE	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 10

Health, Safety and the Environment

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D1.P10.1 Introduction

- 1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).
- 2 Unique definitions relevant to this document are:

HSE means Health, Safety and the Environment; and

HSE Authority means the Purchaser's HSE Authority identified in Appendix E of the Articles of Authority.
- 3 The Project is divided into two phases, namely:
 - (a) Phase 1 – The Design Phase; and
 - (b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices))).
- 4 This SOW is divided into three sections, namely:
 - (a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);
 - (b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and
 - (c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A - GENERAL

D1.P10.2 General

The Supplier, its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents may be required to attend the Purchaser's Premises, Ships and Government establishments to conduct some of the Work under the Subcontract (e.g. setting to work, HATs, SATs, Defect Rectification, etc...).

D1.P10.3 HSE Regulations

- 1 Prior to attending the Purchaser's Premises or a Ship, the Supplier shall request from the HSE Authority a copy of the 'HSE Regulations' specific to the Purchaser's Premises or Ship in accordance with section D1.P2.19 of Part 2 (Project Management) of Schedule D1 (SOW).
- 2 The Supplier shall ensure that its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents review and understand the 'HSE Regulations' that govern the particular site or Ship at which the Work will be carried out.
- 3 If the Supplier's employees, Sub-subcontractors, representatives, consultants and/or agents are subsequently required to attend premises and/or a ship other than those belonging to or controlled by the Purchaser, the Supplier shall request from the HSE Authority a copy of the 'HSE Regulations' governing that site and/or Ship in accordance with section D1.P2.19 of Part 2 (Project management) of Schedule D1 (SOW).

- 4 The Supplier shall be responsible for ensuring ongoing compliance with the Purchaser's HSE requirements in the Purchaser's Premises or when required to visit a build and/or assembly site or Ship.

D1.P10.4 to 49 Reserved**SECTION B – THE DESIGN PHASE****D1.P10.51 to 99 Reserved****SECTION C – THE BUILD PHASE****D1.P10.100 Purchaser's Safety Induction Courses**

- 1 The Supplier, its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents, upon attending the Purchaser's Premises, other Purchaser specified work premises, a Ship, and/or one or more Government establishments, shall participate in one or more safety induction courses conducted by the legal entity responsible for that location.
- 2 The Supplier, its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents shall repeat the safety induction course referred to in section 1 as often as is required by the legal entity having responsibility for the premises or Ship where the Work is being conducted.
- 3 For the avoidance of doubt, attending the safety induction courses is part of the Work and within the Price and attending one or more safety induction courses in accordance with the Purchaser's normal business practices, shall not entitle the Supplier to advance a Claim for excusable delay or similar or equivalent remedy.
- 4 The Supplier shall ensure that its programmes, schedules, schedules of activities, etc... accommodate the time required for attending the safety induction courses.

D1.P10.101 Safe Working Practices

- 1 The Supplier shall be responsible for ensuring that its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents implement safe working practices while attending the Purchaser's Premises, a Ship under construction and/or one or more Government establishments.
- 2 The Supplier shall be responsible for ensuring the Purchaser's employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents implement safe working practices while attending the Supplier's Premises or on board a Ship.
- 3 For the avoidance of doubt, where the Supplier's employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents undertake Work to be performed on the Purchaser's Premises or on board a Ship under construction that involves high voltage (>1000V), high pressure hydraulic and/or pneumatic systems, then in such circumstances the Supplier shall ensure that such employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents are suitably certified. Such certification shall be subject to audit by the Purchaser.

D1.P10.102 Personal Protective Equipment

- 1 The Supplier shall be responsible for ensuring that its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents are equipped with the appropriate personal protective equipment suitable (**PPE**) for the Work and the environment in which they are working. PPE remains the responsibility of the Supplier to supply within the Price.

- 2 The Supplier shall ensure that its employees, contract labour, Sub-subcontractors, representatives, consultants and/or agents, while performing Work at the Purchaser' Premises, a Ship under construction and/or one or more Government establishments, shall wear distinctive clothing identifying their company (e.g. name of company on the back of their coveralls) and have their individual personal name clearly and legibly shown on the front of their clothing.

D1.P10.103 Method Statement

- 1 In the event that setting the Equipment to work requires, by law, 'method statements' and 'risk assessments', the Supplier shall prepare and deliver these in accordance with SDRL HSE201 and DID HSE201.
- 2 In the event that the Supplier requires a concession or deviation to any method statement or plan submitted under the Subcontract, it shall prepare and deliver a Concession Application in accordance with section D1.P5.2 of Part 5 (Quality Assurance) of Schedule D1 (SOW) prior to any non-conforming Work commencing. The assessment of the Concession Application conforming to the requirements of the Subcontract does not relieve the Supplier from its overall responsibilities and obligations under the Subcontract.

Document Identifier	Number: [* insert VSY Document #]	Rev:	1		
Title:	Industrial and Regional Benefits (CCV) SOW			Ship applicability:	All
Document Owner:	[* insert name]	Document Approver:	[* insert name]		
Master Template Ref:	Schedule D1 Part 11 (IRB) CCV SOW			Project:	[*insert name]
Type	Organisation	Area	Supplier	VSY Supplier Code	SWBS
SOW	IRB	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 11

Industrial and Regional Benefits

(CCV)

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D1.P11.1 Introduction

1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).

2 Unique definitions relevant to this document are:

CCV means Canadian Content Value;

IRB means Industrial and Regional Benefits; and

SMB means Canadian based, independently owned and operated manufacturer or service company with fewer than 250 fulltime personnel as of the date of entering into an eligible IRB transaction. Agents and distributors of foreign goods and services as well as subsidiaries of large firms do not qualify.

3 The Project is divided into two phases, namely:

(a) Phase 1 – The Design Phase; and

(b) Phases 2 to 4– The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices)).

4 This SOW is divided into three sections, namely:

(a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);

(b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and

(c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A - GENERAL

D1.P11.2 Canadian Content

1 The Supplier shall use reasonable commercial efforts to maximise Canadian Content in the performance of the Work.

2 The Supplier shall prepare and deliver the CCV Form in accordance with SDRL IRB201 and DID IRB201.

D1.P11.3 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P10.51 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P11.100 onwards Reserved.

Document Identifier	Number: [* insert VSY Document #]				Rev: 1
Title:	Logistics SOW			Ship applicability:	All
Document Owner:	[* insert name]	Document Approver:	[* insert name]		
Master Template Ref:	Schedule D1 Part 12 (Logistics) SOW			Project:	[*insert name]
Type	Organisation	Area	Supplier	VSY Supplier Code	SWBS
SOW	Logistics	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 12

Logistics

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D1.P12.1 Introduction

1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).

2 Unique definitions relevant to this document are:

Bill of Lading means a detailed list of a shipment of goods in the form of a receipt given by the carrier to the person consigning the goods.

Commercial Invoice means a legal document provided by the Supplier containing information such as, the Equipment being transported, country of manufacture, Harmonized System codes, declared monetary value, INCOTERMS, parties involved in the shipping transaction etc...;

Dangerous Goods means goods that contain materials that are classified as dangerous in accordance with the applicable requirements of the Canadian Transportation of Dangerous Goods Regulations;

gsm means grams per square metre, the unit of measurement of thickness;

Inspection Release Note means the document issued by the QA Authority after inspection approval, signifying that the Supplier may make the Equipment and Spares ready for shipment/dispatch or pick up as the case may be;

Inspection Waiver means the document issued by the QA Authority signifying the Supplier may make the Equipment and Spares ready for shipment/dispatch or pick up as the case may be without prior inspection by the QA Authority;

Packing List or **Advice Note** means the Suppliers' document containing an itemized list of the Equipment and/or Spares included in each shipping package (this document also details the accurate weights and dimensions of each shipping package);

Purchaser's Part Number means the Purchaser's unique part number given to each Item of the Equipment and Spares;

Call-Off Instruction or **(COI)** means an instruction issued by the Subcontract Authority to the Supplier to dispatch the Equipment and/or Spares to the Point of Delivery, or have the Equipment and/or Spares ready for pick up by the Purchaser's agent as the case may be;

Optimum Package Quantities or **OPQ** means the most suitable quantity of Equipment or Spares to be contained in an individual package for delivery to a Point of Delivery, or pick up by the Purchaser's agent as the case may be;

Packaging, when used as a noun, means the materials used for the preparation of Equipment and Spares for transportation and storage in accordance with the Subcontract;

Packaging, when used as a verb, means the preparation of the Equipment and Spares for transportation and storage in accordance with the Subcontract (the term embraces, as appropriate, cleaning, preservation, packing and marking);

Ready for Inspection Date or **RFID** is defined in section 1.1 and Annex A of Schedule A (General Conditions); and

Trade Pack means the Suppliers' standard trade pack size.

3 The Project is divided into two phases, namely:

(a) Phase 1 – The Design Phase; and

(b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices)).

- 4 This SOW is divided into three sections, namely:
- (a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);
 - (b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and
 - (c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A - GENERAL

D1.P12.2 Sequence of Events - Logistics

- 1 From a logistics point of view, the sequence of events is as follows:
- (a) the supplier delivers a Packaging, Handling and Transportation Plan;
 - (b) the Equipment, SPT and Spares have been designed and manufactured by the Supplier;
 - (c) the FAT(E) has been successfully conducted and completed by the Supplier (the Purchaser may or may not attend – see Part 5 (Quality Assurance) of Schedule D1(SOW));
 - (d) outstanding Action Items, Defects and observations (if any) arising from the FAT, have been successfully cleared by the Supplier;
 - (e) the Supplier advises the Quality Assurance Authority that the Equipment, On Loan Items, SPT and/or Spares are 'ready for inspection at the Supplier's premises from a specified date onwards' (i.e. the **Request For Inspection Date** or **RFID** set out in Schedule E) (the Supplier shall also advise the Subcontractor Authority with a copy of the advice) ;
 - (f) the QA Authority may, at its discretion, conduct an inspection of the Equipment, On Loan Items, SPT and/or Spares at the Supplier's premises following the RFID and prior to the Subcontract Authority issuing a COI to the Supplier (see sub-section (g) below);
 - (g) following receipt of an Inspection Release Note from the QA Authority, the Subcontract Authority will issue a Call-Off Instruction (**COI**) to the Supplier to have a Shipset of the Equipment, On Loan Items, SPT and/or Spares ready to be collected by the Purchaser's carrier at the Pick Up Point, or delivered to the Purchaser's Warehouse designated in Schedule E dependent upon the INCOTERMS selected by the Purchaser (see sub-section (j) below);
 - (h) upon receipt of COI, the Supplier prepares all the necessary shipping documentation (e.g. Packing List, Commercial Invoice, etc...) and packages, marks and labels the Equipment, On Loan Items, SPT and/or the Spares specified in the COI ready in all respects for delivery to the Point of Delivery or pick up at the Pick Up Point by the Purchaser's carrier as the case may be (see sub-section (j) below);
 - (i) the Supplier contacts the Logistics Authority (see Appendix F of the Articles of Agreement) to agree final details (e.g. weight, dimensions, special handling requirements (if any), Dangerous Goods, special lifting beams (if any), estimated time of arrival, estimated time of collection, etc...) (all details to be confirmed by email or fax to the Logistics Authority with a copy to the Subcontract Authority);
 - (j) dependent upon the INCOTERMS, either:

- i. the Supplier must contract at its own expense for the carriage of the Equipment, On Loan Items, SPT and/or Spares to the Point of Delivery indicated in Schedule E (DAP INCOTERMS 2010) and provide the Commercial Invoice and Bill of Lading to the Logistics Authority; or
 - ii. the Supplier loads the Equipment, On Loan Items, SPT and/or Spares onto the means of transport provided by the Purchaser (FCA INCOTERMS 2010);
- (k) upon receipt of the Equipment, On Loan Items, SPT and/or Spares, the Purchaser conducts an initial inspection of the Equipment, On Loan Items, SPT and/or Spares to check for damage in transit;
- (l) the Purchaser subsequently conducts a visual QA inspection of the Equipment, On Loan Items, SPT and/or Spares to ensure (to the degree that a visual inspection can) that they conform to the requirements of the Subcontract;
- (m) the Purchaser stores the Equipment and/or Spares until placed on board a Ship or used as the case may be (e.g. Commissioning Spares);
- (n) the Purchaser stores the On Loan Items and SPT;
- (o) the Purchaser preserves, protects and maintains the Equipment, On Loan Items, SPT and Spares in accordance with instructions received from the Supplier;
- (p) the Equipment is subsequently placed on board a Ship, installed, set to work, trialled and accepted (see Part 7 (Commissioning, Test and Trials) of Schedule D1 (SOW) with respect to preservation and maintenance of the Equipment).

D1.P12.3 Packaging, Handling and Transportation Plan

The Supplier shall prepare and deliver a Packaging, Handling and Transportation Plan in accordance with SDRL LOG201 and DID LOG201.

D1.P12.4 Maintenance of the Equipment and SPT while in Storage

The Supplier shall prepare and deliver an In Storage Maintenance Plan in accordance with SDRL LOG202 and DID LOG202. The In Storage Maintenance Plan will cover the period between receiving the Equipment, On Loan Items, SPT and placing the Equipment on board a Ship. Upon placing the Equipment on board a Ship, the maintenance will be undertaken in accordance with section D1.P7.50 of Part 7 (Commissioning, Test and Trials) of Schedule D1 (SOW).

D1.P12.4 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P12.50 to 99 Reserved

SECTION C – THE BUILD PHASE

D1.P12.100 General Requirements for Packaging

- 1 It should be noted that certain Equipment will be stored and/or remain on board Ship for an extended period of time prior to delivery of the Ship to the Customer. Other Equipment will be unpacked, quantity and damage checked and shelf stored in the Purchaser's Warehouse (ambient temperature warehousing environment) for later distribution.

- 2 The Supplier shall provide suitable Trade Packs that will provide adequate protection and preservation of the Equipment during transport to, and storage at, the Purchaser's Warehouse.
- 3 The requirements for the Trade Pack are as follows:
 - (a) the Supplier shall provide suitable packaging that ensures each Item of the Equipment may be transported in an undamaged and serviceable condition. Labeling shall be applied to enable the contents to be identified without the need to breach the outer package; and
 - (b) all Equipment that forms part of an aggregated Trade Pack shall comply with one of the outer pack type standards shown in Attachment A to this SOW (Trade Pack).

D1.P12.101 Individual Marking For Packaging of Equipment

- 1 The Supplier shall ensure that the Equipment is identifiable at both the outer package and pallet/crate levels.
- 2 The Supplier shall place markings in the most appropriate positions and select the most suitable method of marking the Equipment ensuring that all markings are legible and resistant to the environmental conditions.

D1.P12.102 Optimum Package Quantities

- 1 The Supplier shall pack the Equipment in quantities that match the Purchaser's COI. The intention is to deliver all Equipment and Spares by Shipsets (i.e. all of the Ship 1 Equipment and Spares will be shipped at one time, all of the Ship 2 Equipment and Spares will be shipped at one time, and all of the Ship 3 Equipment and Spares will be shipped at one time).
- 2 Robust and/or large sized Equipment, which by their nature do not require packaging, shall be regarded as OPQ packages and shall each be marked in accordance with section D1.P12.114.
- 3 For ease of handling, transportation and delivery, commercial OPQ packages, which contain identical Equipment (but not Spares), may be 'bulked' and packed using the most economical commercial materials to form a 'consignment package'.

D1.P12.103 Packaging

No Packaging materials will be returned to the Supplier.

D1.P12.104 Palletised Equipment - General

The Supplier shall pack the Equipment into appropriately sized cartons stacked on pallets. When suitable, or where a number of cartons would constitute greater than one half (0.5) of a pallet capacity, the Supplier shall use pallets to minimise handling. All cartons and pallet shall be labelled as described in section D1.P12.113.

D1.P12.105 Pallet Specifications

- 1 Palletised Equipment should be presented wherever possible on standard 1200 mm x 1000 mm four way-entry pallets. Where Equipment to be transported exceeds this dimension, bespoke pallet sizes can be utilised.
- 2 All pallets utilised by the Supplier are to be of their original ownership. Pallets hired from organisations will not be accepted.

- 3 The usage of pre-used pallets is acceptable provided they are in good condition and capable of providing the highest level of protection and security to the Equipment and/or Spares in transportation and storage, and to minimise handling risks to those involved.

D1.P12.106 Pallet Loading and Securing

- 1 Loading of Equipment and/or Spares onto pallets should be to a maximum of the intended/certified weight capacity of the pallet being used. Where non-standard pallets are being used in excess of two and a half tonnes (2.5 tonnes), the Supplier shall agree special arrangements with the Logistics Authority in advance of transportation of the Equipment and/or Spares.
- 2 Equipment and/or Spares on pallets should not over-hang the pallet base by more than twenty-five millimetres (25 mm) in any direction, nor be higher than one and a half metres (1.5 m) including the pallet.
- 3 Equipment and/or Spares shall be securely fastened to the pallet bases. The Supplier shall fully stretch-wrap each pallet unit and apply two-way banding under the pallet base and over the Equipment.
- 4 Stretch-wrap used should be transparent of at least a twenty (20) microns specification. In certain circumstances the Logistics Authority may request that the Supplier apply black stretch wrap of a similar specification.
- 5 The banding to be applied shall be of a plastic variety to exceed the materiel load requirement. Metal banding shall not be used in any circumstances due to the risk of injuries to personnel. Corner protectors should be applied to carton edges touching banding to spread the tensioned load to protect the Equipment and/or Spares and outer packaging.

D1.P12.107 Carton Specification

- 1 Where cartons are used either for inner or outer-packaging, these shall be robust and previously unused. An appropriate specification of carton shall be utilised to protect the Equipment contained while in storage. As a minimum, the Supplier shall pack the Equipment using cartons to the following specifications:

Weight (kgs)	gsm
0.01 to 5	200
5 to 10	300
10 to 15	15 double skinned wall
15 to 25	200 double skinned wall
25 to 30	300 double skinned wall

- 2 An inner cushioning lining of at least fifty millimeters (50 mm) as further protection against damage shall be applied.
- 3 Cartons shall be sealed with strong polyvinyl chloride (PVC) film backed carton closure tape to minimise stretch and maximum tear/ puncture resistance.
- 4 Suppliers are required to clearly identify the weight of any cartons in excess of three (3) kilos.
- 5 Suppliers shall pack cartons to a maximum of twenty (20) kilo gross weight to minimise manual handling risks where possible. Where this is not possible through the intrinsic nature of the material, cartons shall be marked with "Beware Heavy Weight" labels on all four sides of the outer carton.
- 6 Where the packaging of inner cartons at the OPQ level does not fill the outer carton to capacity a void filler of corrugated cardboard, air bags, bubble wrap or crumbled paper shall be utilised. The Supplier shall not use polystyrene chips.

D1.P12.108 Crates

- 1 Where crates are utilised due to the dimensions of the Equipment, the Supplier should ensure an even loading across the crate base to ensure safe handling with forklift lifting pockets placed to ensure stable lifting.
- 2 Where not obvious, the Supplier shall apply markings to a crate to identify the orientation for lifting purposes.

D1.P12.109 Wood Packaging

- 1 Materials used for packing construction shall comply with Canadian Food Inspection Agency D-02-12, import requirements of non-manufactured wood and other non-propagative wood products, except solid wood packaging material, from all areas other than the continental United States.
- 2 Sources supplying wood treated and marked so as to conform to Annex I and Annex II of the International Standard for Phytosanitary Measures, "Regulation of Wood Packaging Material in International Trade", Publication No 15, published by the Food and Agriculture Organisation (FAO) of the United Nations (ISPM15).

D1.P12.110 Special Handling

- 1 Equipment that requires special handling arrangement, such as lifting beams, lifting hooks or loads heavier / longer / wider than normal, or dangerous, and/or sensitive Equipment, will be treated on a case-by-case basis. These special handling requirements must be included in the On Loan Items list set out in Schedule E of the Subcontract. In such circumstances the Supplier shall contact the Logistics Authority.
- 2 In all cases the Purchaser will require pre-notification of any special handling requirements and full details such as lifting certificates, Supplier's location, access arrangements, etc...

D1.P12.111 Moisture Sensitive Equipment

Where the Supplier considers that packed Equipment being supplied is susceptible to moisture sensitivity in storage, under normal ambient temperature warehousing, then the Supplier shall take precautions within the provision of packaging to reduce the moisture level to within their recommended tolerances, which protect material condition and future functionality. Such measures, as deemed necessary by the Supplier, shall include, but not be limited to, provision of enclosed polythene bags around the Equipment, desiccation, use of foil pouches, etc...

D1.P12.112 Packing Requirements for Dangerous Goods

- 1 The Supplier shall be responsible for ascertaining whether the Equipment being supplied is, or contains, Dangerous Goods.
- 2 Dangerous Goods are to be classified and packaged in accordance with the Transportation of Dangerous Goods Regulations as published by Transport Canada and including transportation by air, sea, rail and/or road, with particular reference to the certification markings of the packaging.

D1.P12.113 Package Marking (Labels)

- 1 Each package, within each consignment, shall be labelled on the external surface of each separately handled package (i.e. outer box/crate/pallet etc.), as follows:
 - (a) Project name;
 - (b) Agreement number;
 - (c) SWBS number;

- (d) Covering Purchase Order number;
 - (e) description of the Equipment / System;
 - (f) full legal name of the Supplier;
 - (g) VSY Supplier Code;
 - (h) name of Purchaser;
 - (i) address of Point of Delivery;
 - (j) COI number;
 - (k) any statutory markings and any handling markings including weight of any package that exceeds three (3) kilos gross;
 - (l) any additional markings specified in the Subcontract;
 - (m) for multiple package consignments, package numbering. e.g. 1 of 3, 2 of 3, 3 of 3, etc...; and
 - (n) serial numbers of the Equipment in each consignment package.
- 2 An example of a label is set out in Attachment B to this SOW (Shipping Label Requirements).
- 3 Labels shall be positioned centrally on each consignment package such that the package can be opened for examination without damage to the label.
- 4 The Supplier must make allowance for bar-coding requirements for use in the Purchaser's Warehouse, which will be provided by the Purchaser (format to be agreed). If bar coding at any level of packaging is required, the Purchaser will advise the Supplier in writing of the details (e.g. Agreement Number, SLIN and Purchaser's Part Number, etc...) no later than one (1) month before dispatch or pick up as the case may be.

D1.P12.114 Labelling for Equipment (Not Packaged)

Robust and/or large Equipment, which by their nature do not require packaging, shall have a transparent wallet either securely attached or stuck onto the Equipment and shall contain a document providing the information detailed in section D1.P12.113.

D1.P12.115 Consignment of Aggregated Packages

With the exception of Dangerous Goods, where there is an order for several different Items of the Equipment, aggregation of these packaged Items of Equipment into a larger consignment package for ease of handling and delivery is acceptable.

D1.P12.116 COB Spares, COB STTE, Base Spares and Base STTE

- 1 All Carried On Board Spares, Carried On Board STTE, Base Spares and Base STTE shall be marked, labelled and packaged in accordance with Part 4 (ILS) of the SOW.
- 2 All Carried On Board Spares, Carried On Board STTE, Base Spares and Base STTE shall additionally be labeled:

"THIS PACKAGE CONTAINS CARRIED ON BOARD SPARES [or Carried On Board STTE, Base Spares or Base STTE as the case may be] AND ARE NOT DESTINED FOR PRODUCTION USE".
- 3 For the avoidance of doubt, all Commissioning Spares and Harbour and SAT Trials Spares (i.e. those consumables and spares used to test the Equipment or System prior to delivery of the Ship to the Customer) shall be marked, labeled and packaged in accordance with this Part 12 (Logistics) of the SOW.

- 4 The Spares for Base and Carried On Board use shall be packed separately to permit each Item of the Spares (Base or Carried On Board) to be drawn-off independently without having to break into the over-packing of any element of the delivery.

D1.P12.117 Dispatch Documentation (Commercial Invoice and Packing List)

- 1 The Supplier shall provide a Commercial Invoice with each separate delivery consignment.
- 2 Each Commercial Invoice must be accompanied by a copy of the Packing List with a duplicate copy of the Packing List attached to the outside of each separately handled package (i.e. outer box/crate/pallet etc.), with a further copy placed inside the package. The Packing List must contain, as a minimum, the following:
 - (a) Packing List Number;
 - (b) inspection notes (release/waiver);
 - (c) consignee;
 - (d) address;
 - (e) COI Number;
 - (f) full legal name of Supplier;
 - (g) address of Supplier;
 - (h) VSY Supplier Code;
 - (i) Subcontract Number;
 - (j) SWBS number;
 - (k) Covering Purchase Order number;
 - (l) quantity;
 - (m) unit of measure;
 - (n) SLIN as they appear in Schedule E1;
 - (o) Purchaser's Part Number;
 - (p) description of the Equipment / System; and
 - (q) weight and dimensions of each package.
- 3 Where the separately handled package is made up of several boxes, the preference is to have a separate Packing List for each box. The Packing List and each box are to be numbered to indicate both the number of the box and the total number of boxes inside each separately handled package. e.g., 1 of 3, 2 of 3, 3 of 3, etc...
- 4 Alternatively, a single Packing List for all the Equipment /System in the whole consignment will be acceptable provided that all of the boxes inside each package has a copy attached and clearly highlights (a) the Equipment contained within each box; (b) the box number; and (c) the number of boxes i.e. 1 of 3, 2 of 3, 3 of 3, etc...
- 5 An example of a label is set out in Attachment C to this SOW (Packing List Requirements).
- 6 The Supplier shall not attach to the Equipment any documentation that contains pricing information unless specifically required to meet customs regulations.
- 7 The Supplier shall supply with each consignment a copy of the Purchaser's COI.

- 8 The Supplier shall also supply with each consignment a copy of the Supplier's Packaging, Handling and Transportation Plan if required in Part 4 (ILS) of the SOW.

D1.P12.118 Compliance

- 1 For the avoidance of doubt, the Supplier is reminded that the Purchaser shall have the right to reject any Equipment or Spares that the Supplier has failed to label, mark or pack in accordance with the provisions of this SOW. This will delay payment of any claims for payment.

- 2 The Supplier is also reminded that the carrier has a statutory legal requirement to ensure that the Equipment and Spares being loaded onto its vehicles is sufficiently secure for safe transportation by air, sea, rail and road. Consequently, the carrier shall have the authority to reject Equipment or Spares that are not suitably packed for transportation and in these circumstances the Supplier shall be required, at its cost and risk, to alter load securing to the reasonable satisfaction of the carrier.

D1.P12.119 Classified Equipment




In the event that the Equipment and Spares are Classified, the Supplier shall contact the Security Authority and Logistics Authority (see Appendix E of the Articles of Agreement).

Attachment A to Part 12 of the SOW – Trade Pack

1 Protection, Packing, Marking and Shipping Requirements

- 1 All consignments with a total weight exceeding twenty-three (23) kilograms shall be palletised to assist movement and marshalling of the Equipment by forklift trucks.

	Standard Packing Types	Remarks
	<p>CARTONS</p>  <p>Small packages only up to 23kgs</p>	
	<p>TRI-WALL/STRUTTED CARTON (Palletised)</p>  <p>Banded and shrink wrap (as applicable – sealed tri-walls n/a)</p>	
	<p>DUO-WALLED CARTONS (Palletised)</p>  <p>Banded and shrink wrapped.</p>	
	<p>FULL WOODEN BOARDED CASE (Palletised)</p>  <p>Wood or chipboard sides with internal chocks/ positioners.</p>	

	Standard Packing Types	Remarks
	<p>PALLETISED</p>  <p>Banded and shrink wrapped</p>	
	<p>WOODEN CRATE (Palletised)</p>  <p>Equipment banded and shrink wrapped</p>	
	<p>SELF CONTAINED CONTAINER / CUBICLE SKID</p>  <p>With fork lift facility</p>	

Attachment B to Part 12 of the SOW - Shipping Label Requirements

EXAMPLE

To: Vancouver Shipyards Co. Ltd. Address as per Covering Purchase Order	COI # [* insert #] Package # [* insert #]
From: Supplier: [* insert name of Supplier] Supplier address: [* insert address] VSY Supplier Code: [* insert #]	Agreement # [* insert #] Covering Purchase Order # [* insert #]
Project	[* insert #]
Description of the Equipment	[* insert description of the Equipment]
SWBS #	[* insert SWBS #]
Delivery Packing List Number(s)	[* insert #]
Inspection Release Note Number(s)	[* insert QA #]
Weight	[* insert weight in kilos]

Attachment C to Part 12 of the SOW – Packing List Requirements

EXAMPLE

Packing List Number			[* insert #]		
Inspection Release Note Number(s)			[* insert #]		
To: Vancouver Shipyards Co. Ltd. Address as per Covering Purchase Order			COI Number [* insert #]		
From: Supplier: [* insert name of Supplier] Supplier address: [* insert address] VSY Supplier Code: [* insert #]			Agreement # [* insert #] Covering Purchase Order # [* insert #]		
Project			[* insert #]		
Description of the Equipment/Spares			[* insert description of the Equipment]		
SWBS #			[* insert SWBS #]		
Package Weight (kgs)			Package Dimensions (L x W x H) (mm)		
Quantity	UOM	SLIN	Purchaser's Part Number	Description	Packed in Box Number
[*]	[*]	[*]	[*]	[*]	[*] of [*]

Document Identifier	Number: [* insert VSY Document #]	Rev:	1		
Title:	Information Technology / Information Management SOW			Ship applicability:	All
Document Owner:	[* insert name]	Document Approver:	[* insert name]		
Master Template Ref:	Schedule D1 Part 13 (IT IM) SOW			Project:	[*insert name]
Type	Organisation	Area	Supplier	VSY Supplier Code	SWBS
SOW	IT	Subcontracts / SCM	[* insert name]	[* insert VSY number]	[* insert VSY number]

Schedule D1

Statement of Work

Part 13

Information Technology / Information Management

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D1.P13.1 Introduction

- 1 In this document, unless the context otherwise requires, where the first letter is capitalized, it is a defined term set out in either the Articles of Agreement, Schedule A (General Conditions), Schedule D1 (SOW) or Schedule D3 (DIDs).
- 2 Unique definitions relevant to this document are:

Cover Sheet means the cover sheet attached as Attachment A to this SOW.
- 3 The Project is divided into two phases, namely:
 - (a) Phase 1 – The Design Phase; and
 - (b) Phases 2 to 4 – The Build Phase (invoked by the exercise of one or more Options (see Schedule G2 (Price Itemization, Charge Out Rates and Option Prices))).
- 4 This SOW is divided into three sections, namely:
 - (a) SECTION A – GENERAL - those common tasks to be performed by the Supplier during the Design Phase and the Build Phase (sections 1 to 49 reserved for this section);
 - (b) SECTION B – THE DESIGN PHASE – those specific tasks to be performed by the Supplier in the Design Phase only (sections 50 to 99 reserved for this section); and
 - (c) SECTION C – THE BUILD PHASE – those specific tasks to be performed by the Supplier in the Build Phase only (sections 100 onwards). The Work in the Build Phase is only to be undertaken following the exercise of one or more of the Options.

SECTION A - GENERAL

D1.P13.2 Data Item Cover Sheet

- 1 The Supplier shall populate and attach the Cover Sheet to all Data Items delivered under the Subcontract.
- 2 The Cover Sheet does not replace the Supplier's own front title page.
- 3 The Purchaser will provide the Supplier with a *pro forma* Cover Sheet in Microsoft Word and Microsoft Excel format within one (1) month of EDS.
- 4 The Supplier shall ensure that all the attributes on the Cover Sheet are correctly populated and are aligned with the attribute values in the SDRL.
- 5 Where the Supplier is required to provide documents or drawings that are not in Microsoft Word, Microsoft Excel or AutoCAD formats, the Supplier shall transpose the Cover Sheet into the applicable format for its system, by either re-drawing or converting.
- 6 The Supplier shall ensure that the latest version of the Cover Sheet is used.
- 7 If the Cover Sheet is changed, the Purchaser will advise the Supplier by email and issue them with the latest versions of the pro-forma.

8 In the event that multiple files are being submitted for a particular Data Item, then a separate Cover Sheet shall be used for each file submission.

9 The Cover Sheet is attached as Attachment A to this SOW.

D1.P13.3 Naming Convention

1 The Supplier shall deliver Data Items using a descriptive file naming convention containing the document revision as follows:

(a) If the SDRL submission has a single file then use the structure:

Example:

E101 – Equipment Safety Questionnaire – Rev 0

(b) If the SDRL submission has multiple files then use the structure:

Example

E001 – Fuel Oil Purifier Maintenance Envelope dwg – Rev 0

(c) Subsequent submissions of the same file must preserve the file name of the previous submission and have the revision number up-revved as follows:

Example

E001 – Fuel Oil Purifier Maintenance Envelope dwg – Rev 1

D1.13.4 to 49 Reserved

SECTION B – THE DESIGN PHASE

D1.P13.50 to 99 Reserved.

SECTION C – THE BUILD PHASE

D1.P13.100 Reserved.

Attachment A to Part 13 (IT/IM SOW)

Cover Sheet to Data Items

Cover Sheet					
Project:	[*]				
Document identifier:	VSY Document number:	Version #:		Volume #	
	VSY: [*]	[*]		[*]	
Data Item Title:	[*]				
Issue date:	[* DDMMYY]	Line item # on the SDRL table:		[*]	
SWBS #:	[*]		VSY Supplier Code:	[*]	
** VSY Part # or #s:	[*]		Supplier's contact #:	[*]	
Security Classification:	[*]				
Project	Ship	SDRL ID #	Submission #	Agreement #	Name of Supplier
[*]	[*]	[*]	[*]	[*]	[*]
Data Item review section: For Purchaser use only				[* _____]	
Review Date	[* DDMMYY]			VSY Signature:	
Conforms to the requirements of the Subcontract				[* _____]	
Does NOT conform to the requirements of the Subcontract				Print name:	
Re-submission date:	[* DDMMYY]				

** These are the 'parent' part numbers (i.e. column 1 of the Breakdown Structure of the Equipment) identified in Schedule E (Ship Equipment, On Loan Items, SPT, Deliverable Software and Spares