**Data Item Description**

**Integrated Logistics Support**

**Capabilities Questionnaire**

**DID ILS-080-100**

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| **Integrated Logistics Support Capabilities** | **DID ILS-080-100** |

1. **Purpose**

The purpose of the ILS Capabilities Questionnaire is collect the required data for the development of the reliability, maintainability and availability of Systems and related Equipment, and may be used to determine Life Cycle Costing.

1. **References**

This DID must be read in conjunction with Schedule A (General Conditions) and the corresponding SOW references.

1. **Preparation Instructions**

This Data Item shall comply with the general format, content and preparation instructions set out in Part 1 (Introduction) of Schedule D1 (SOW) and Part 1 of Schedule D2 (SDRL).

1. **Format and Content**

Provide the updated ILS Capabilities Questionnaire noting all changes that occurred from last submission.

1. **Definitions**

Unique definitions relevant to this document are defined in Schedule I

1. **INTEGRATED LOGISTICS SUPPORT (ILS)**

ILS is an integrated approach to the management of logistic disciplines in the military with a goal of creating systems that last longer and require less support. ILS is defined as a disciplined approach that influences the product design and develops the support solution to optimize the Life Cycle Cost (LCC) and encompasses the technical logistics elements to plan and develop the support requirements for a system. ILS addresses the supportability of the system not only for the acquisition, but also throughout the period of its operational life. The key elements of ILS are as given below.

1. ILS PLANNING

The ILS Plan is a live document that is maintained throughout the project life and it includes the requirements, tasks, interfaces and milestones for various phases of the project. The ILS planning activities coincide with the development of the acquisition strategy for the system and trade-offs are normally required with the development of the ILS elements to acquire a system that is affordable, operable, maintainable, supportable, sustainable and environmentally sound.

1. DESIGN INTERFACE & SUPPORTABILITY ANALYSIS

The design interface and Supportability Analysis (SA) influence the selection and finalization of the functions of the ship and the equipment onboard and their configuration. Some of the basic requirements that need to be considered as a part of the Design Interface include the study of the Reliability, Availability, Maintainability, Safety, Failure Mode Effects and Criticality Analysis etc.

1. SA consists of the analytical tasks which influence the design of the system to take account of logistic support considerations and identify support issues, readiness requirements and cost drivers as early as possible in the system life cycle.
2. The design and configuration of the ship and the systems or equipment onboard, identified through the Design Interface and Supportability Analysis, is progressively evolved as the program advances. The control of the design and configuration is achieved through the establishment of a Configuration Management (CM) process based on the ILS principles.
3. MAINTENANCE PLANNING

Maintenance Planning (MP) commences during the initial stages of the acquisition process with the development of the maintenance concept. It defines the repair policy, determines the probable repair tasks for all types of maintenance and identifies the spares, tools, facilities, documentation, techniques and personnel required to execute the maintenance tasks.

1. SUPPLY SUPPORT

Supply Support (SS) identifies the spares to be included in the Technical Documentation. It shall also include the Codification and Ranging and Scaling of the identified spares leading to the development of the initial provisioning list and spares establishment lists.

1. SPECIAL TOOLS AND TEST EQUIPMENT

Special Tools and Test Equipment (STTE) includes all equipment, mobile and fixed, that is required to support the Operation and Maintenance of the ship’s systems and equipment onboard.

1. FACILITIES AND INFRASTRUCTURE

Facilities and Infrastructure (F&I) is composed of planning activities which are directed toward ensuring that the physical infrastructure and services, which are required to integrate, operate and maintain the system and equipment onboard the ship, are available concurrently with deployment of the system.

1. TRAINING AND TRAINING EQUIPMENT

Training and Training Equipment (T&TE) support includes the processes, procedures, techniques, and training equipment used to train the personnel to operate and support a system. This element defines qualitative and quantitative requirements for the training of operating and support personnel throughout the life cycle of the system.

1. TECHNICAL INFORMATION

Technical Information (TI) consists of the information necessary to operate, maintain, repair, support and dispose of a product during its life cycle. It includes all kinds of technical data and documentation in the form of drawings, manuals, reports, etc. The availability of the technical data and documentation and their quality has a great impact on the overall delivery of logistic support functions during the life cycle of the ship and the equipment onboard.

1. HUMAN FACTOR INTERFACE

The Human Factor Interface (HFI) involves identification and acquisition of personnel with skills and grades required to operate and maintain a system over its lifetime.

1. PACKAGING, HANDLING, STORAGE AND TRANSPORTATION

Packaging, Handling, Storage and Transportation (PHST) includes resources and procedures to ensure that all equipment and support items are preserved, packaged, marked, handled, transported, and stored properly for short- and long-term requirements.

1. DISPOSAL AND TERMINATION

The disposal of the equipment should be considered at the design phase and take into account the possibilities of re-deployment, sale, waste disposal, the environmental impacts and the possible disposal of recovered material by sale.

1. **PHASES OF SHIP’S LIFE CYCLE**

A ship’s life cycle is generally divided in to the following five main phases based on the activities involved in each of the phases.1-ships-life-cycle

* Concept & Technology Development (C&TD)
* Engineering Development (ED)
* Production & Deployment (P&D)
* Operations & Support (O&S)
* Disposal

The initial ILS strategy to achieve the program requirements for all the elements of ILS are conceived during the Concept and Technology Development phase. The high level strategy for the maintenance of the ship and the equipment onboard is formulated during this phase and it determines the maintenance approach to be adopted during the operational life cycle.

1. **COMPLETION OF APPENDIX A**

Supplier must complete Appendix A for the RFP response.

**APPENDIX “A”**

**ILS Capabilities Questionnaire**

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| **Integrated Logistics Support Capabilities** |
| **Part A - Introduction** |
| Vancouver Shipyards Company Ltd***(VSY***) must implement an Integrated Logistics Support (ILS) program as part of the scope of work. The ILS program will include analyses to ensure the overall reliability, maintainability and supportability and is also required to establish life cycle costs. In anticipation of this work effort, the Supplier is required to fill out this form (see Schedules B1 to B5 inclusive of the Resulting Subcontract). This information will be used to assess the Supplier's ability to contribute to achieving the ILS requirements of the Project. |
| **Part B - Supplier Information** |
| Name: |  [ \* ] |
| Address: |  [ \* ] |
|  |  |  [ \* ] |
| City / Town |  [ \* ] |   |  |  |  |
| Province / State |  [ \* ] | Postal code / Zip code |  [ \* ] |
| Supplier’s Web Site |  [ \* ] |
| Supplier’s CAGE Code |  [ \* ] | \*if available |  |  |
| Supplier’s Contact details: | Name: |  [ \* ] |
|   |  |   | Title: |  [ \* ] |
|   |  |   | Phone: |  [ \* ] |
|   |  |   | Fax: |   |  [ \* ] |
|   |   |   | Email: |  [ \* ] |

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| **Part C – Equipment Proposed** | Data Sheets and Cataloguing Data |  |
| **System or Equipment:** | **Part Number** | **Data Sheet #** |
|  |  [ \* ] | **1** |

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| **Data Sheet** |  |
| In the 'Response' column, the Supplier must provide the required information, or provide comments regarding their ability to provide it. If the information exists in documents provided elsewhere (for example: “see the operating manual”; or “see Schedule E of the Resulting Subcontract”), you may simply refer to that location in your Proposal (e.g. "see operating manual, section [x]). If the information is not currently available, please indicate when the data will be made available. |

| **#** | **Title** | **Description** | **Response** |
| --- | --- | --- | --- |
|  | Nomenclature | Name of the Equipment |  [ \* ] |
|  | Equipment Description | High-level description of the Equipment, including capability, type, size, capacity, etc. |  [ \* ] |
|  | Original Equipment Manufacturer (OEM) | Name of Original Equipment Manufacturer (OEM) |  [ \* ] |
|  | Supplier | Name of Supplier (if not the same as OEM) |  [ \* ] |
|  | OEM Part Number | Part Number assigned by OEM |  [ \* ] |
|  | Model No. | Model Number assigned by OEM |  [ \* ] |
|  | NATO Stock Number (NSN) | Provide if one exists |  [ \* ] |
|  | Maintenance Policy | Provide recommendation as follows: |  |
|  |  | D - Discard on Failure |  [ \* ] |
|  |  | RA - Repair / Adjust in situ  |  [ \* ] |
|  |  | R by R - Repair by Replacement |  [ \* ] |
|  | Repair Recommendation | Are repairs to be performed by OEM or authorized repair facilities only? |  [ \* ] |
|  | Overhaul Periodicity | Number of operating hours, cycles between overhaul (if applicable) |  [ \* ] |
|  | MTBF (Hours) | Mean Time Between Failures given in hours (or annotate with other measurement base such as cycles) |  [ \* ] |
|  | Reliability Data Source | Reference data source for reliability figures, e.g. test data or based upon field data, etc.  |  [ \* ] |
|  | Failure Modes and Effects Analysis (FMEA) | If available. |  [ \* ] |
|  | System Reliability Analysis | If available. |  [ \* ] |
|  | MTTR (Hours) | Mean Time To Repair equipment. (include data source) |  [ \* ] |
|  | Fault Find Method | State main method to fault isolate to failed unit. E.g. manual troubleshooting, operational checks, Built-In-Test (BIT), Condition Based Monitoring (CBM), etc. |  [ \* ] |
|  | Built In Test (BIT) provided or available  | State the effectiveness of the BIT to detect some or all failure modes for a given unit. E.g. 90% of failures will be detected by the BIT capabilities.  |  [ \* ] |
|  | Troubleshooting | Fault finding or troubleshooting guides for all furnished Equipment. Publications must be submitted with proposal; if not available, indicate when they will be supplied. Class 2 Interactive Electronic Technical Manuals (IETMs) are preferred (indicate if publications are Class 2 IETM). If design changes occur, updated manuals must be provided. Indicate price (and validity period) to purchase IP rights for these publications. |  [ \* ] |
|  | Corrective Maintenance  | Require Corrective Maintenance or Repair actions to restore functionality in the event of a failure. |  |
|  | Maintenance Envelope Data | Required operating and maintenance areas with clearance for removal or repair of components, including access diagram. |  [ \* ] |
|  | Planned Maintenance | Required planned (preventative) maintenance Time (man-hours) and Material (Consumable spares / parts). |  [ \* ] |
|  | Standard and Special Tools, Test Equipment, and Support Equipment1 | Provide details of any Special Tools and/or Test Equipment (***STTE***) required to troubleshoot and/or maintain the Equipment. |  [ \* ] |
|  | Training | Provide details of any recommended OEM training to enable in-service operation / maintenance of the proposed Item / equipment, number of trainees per serial. |  [ \* ] |
|  | Training Cost | If OEM training (operations or maintenance) is available / recommended, identify and provide cost (original currency) to deliver one (1) serial of each course at the Supplier’s premises. Identify separate cost for all related travel, accommodation and *per diems*. Indicate pricing validity (duration). Additionally, indicate cost and pricing validity (duration) to purchase end-user IP rights to the training materials.) |  [ \* ] |
|  | Technical Publications and Operating Manuals (Provide publications with Proposal) | Technical publications required for operating, preventative (PM) and corrective maintenance of the equipment, including installation instructions, start-up procedures, recommended Preventative Maintenance / tasks and schedules, and Corrective Maintenance tasks. Publications must be submitted with proposal; if not available, indicate when they will be supplied. Class 2 Interactive Electronic Technical Manuals (IETM) are preferred (indicate if publications are Class 2 IETM). If any design changes occur, updated publications must be provided. Indicate price (and validity period) to purchase IP rights for these publications. |  [ \* ] |
|  | Fail-Over Procedures | In the event of failure of the primary system, indicate the fail-over procedure for the secondary (or backup) system to be brought online, if applicable. If the system automatically fails-over to the backup, please indicate the sequence of events that would occur. |  [ \* ] |
|  | Material Safety Data Sheets (MSDS) | Material Safety Data Sheets (MSDS) |  [ \* ] |
|  | Unit Cost | Purchase price per unit. |  [ \* ] |
|  | Repair Turn Around Time (Weeks) | In the event that the item is returned to the OEM / Supplier for repair, what is the average repair turn-around time (including shipping back to Navy/DND at Esquimalt, BC) |  [ \* ] |
|  | Supplier Repair Cost | Average total cost (current year) to repair a failed unit by the OEM / Supplier (in Canadian dollars), including return shipping to Esquimalt, BC. |  [ \* ] |
|  | Manufacturers’ Recommended Spare Parts Lists | * Classification Society required spares1
 | * [ \* ]
 |
|  |  | * Commissioning Spares List, Harbour and Sea Trial List (sometimes referred to as INCO Spares)1
 | * [ \* ]
 |
|  |  | * Carried On Board Spares List and Base Spares List required to support (6) months of operation with unit prices 1
 | * [ \* ]
 |
|  |  | * Insurance spares (subject to early obsolescence or in low demand but nevertheless spare needed) (add to Base Spares List and indicate as 'Insurance Spares')1
 | * [ \* ]
 |
|  | Warranty Period | See section 1 Articles of Agreement of the Resulting Subcontract |  [ \* ] |
|  | Expiry | Date of Manufacture (DOM) and Expiry Date in accordance with Part 4 (ILS) of Schedule D1 (SOW) 6 weeks prior to shipment or pick up. |  [ \* ] |
|  | Equipment / Parts Obsolescence (Months) | Elapsed months from Delivery Date to when Equipment/Items of the Equipment will become unavailable due to obsolescence |  [ \* ] |
|  | Next Generation  | Plans for introduction of successor generation  |  [ \* ] |

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| **Cataloguing Data Template** |
| Items of the Equipment recommended for procurement by the Supplier require a NATO Stock Number (NSN). Items that do not already have NSNs must go through the Department of National Defence (DND) cataloguing process, whereby NSNs are assigned.  |
| The Supplier must complete this Cataloguing Data Template with Provisioning Technical Documentation for each item of the equipment requiring cataloguing, attaching pages such as drawings or Specification sheets as necessary. Each item to be catalogued will have a data package. The required data is prescribed by the End User to enable the cataloguers to distinguish the subject item from similar but non-interchangeable items. |
| Identify the “Item to be catalogued” as fully as possible: description of the Equipment; Manufacturer; Model (if applicable); Manufacturer's Part No.; Commercial and Government Entity (CAGE) code (if available). |
| **Cataloguing Data #** | **1** | **Item to be catalogued:** | **:**  [ \* ] |
| **#** | **Required Data** | **Response** |
|  | Drawings and illustrated parts lists |  [ \* ] |
|  | Technical and repair specifications |  [ \* ] |
|  | Physical and electrical characteristics |  [ \* ] |
|  | Performance data, including operating conditions |  [ \* ] |
|  | Mounting requirements |  [ \* ] |
|  | Commercial catalogue data |  [ \* ] |
|  | Calibration requirements |  [ \* ] |
|  | Any special packaging, handling, storage, or transportation requirements beyond commercial practice? |  [ \* ] |
|  | Any maintenance that must be completed while the item is in storage? |  [ \* ] |
|  | Hazardous material data? |  [ \* ] |
|  | ITAR/Controlled Goods information? |  [ \* ] |
|  | Disposal requirements? |  [ \* ] |