Public Works and Government Services Canada | Travaux publics et Services gouvernementaux Canada

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Bid Receiving - PWGSC / Réception des soumissions → TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau
Quebec
K1A 0S5
Bid Fax: (819) 997-9776

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Detection, Simulation and Optical Systems Division
Place du Portage III, 8C2
11 rue Laurier Street
Gatineau
Quebec
K1A 0S5

Title - Sujet Digital Radiography Panel System	
Solicitation No. - N° de l'invitation W8486-217363/A	**Amendment No. - N° modif.** 003
Client Reference No. - N° de référence du client W8486-217363	**Date** 2022-06-29
GETS Reference No. - N° de référence de SEAG PW-$$QT-014-28679	
File No. - N° de dossier 014qt.W8486-217363	**CCC No./N° CCC - FMS No./N° VME**

Solicitation Closes - L'invitation prend fin
at - à 02:00 PM Eastern Daylight Saving Time EDT
on - le 2022-07-18 Heure Avancée de l'Est HAE

F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes
Plant-Usine: ☐ **Destination:** ☐ **Other-Autre:** ☑

Address Enquiries to: - Adresser toutes questions à: Thomas, Kassandra	**Buyer Id - Id de l'acheteur** 014qt
Telephone No. - N° de téléphone (343) 549-3143 ( )	**FAX No. - N° de FAX** ( ) -

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	**Delivery Offered - Livraison proposée**

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Telephone No. - N° de téléphone
Facsimile No. - N° de télécopieur

Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)

Signature **Date**

Canada

Solicitation Amendment 003 is issued to:

1. Respond to the questions received during the solicitation period.

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1. Respond to the questions received

Question 1: A1.2.1.3 - Is DND using the XRS-3 NSN 01-608-7857 with 5 pin connector or NSN 01-675-3759 with 7 pin connector?

Answer 1: DND will be using the 20V XRS-3 Generator NSN 01-675-3759 with 7 pin connector version. SOW paragraph A1.2.1.3 and Bid Evaluation M1 have been amended to:
“The DR Panel must connect to and control the Golden Engineering XRS-3 (NSN 01-675-3759) 20 V version with 7 pin connector, that is in-service with DND, as a source to generate the X-rays.”

Question 2: A1.4.5.2 - Will a battery that is removable and separately chargeable meet the requirements?

Answer 2: Yes, a battery that is removable and separately chargeable will meet the requirement.

Question 3: DID DRPS-ILS-211 – Do items not provided by the contractor have to be included in the EEA?

Answer 3: No, the items not provided by the contractor do not have to be included in the EEA.

Question 4: DID DRPS-ILS-211 – Does the EEA include the impact of producing and manufacturing the DRPS?

Answer 4: No, the EEA does not include the impact of producing and manufacturing the DRPS.

Question 5: French translation – Is a Translation Accuracy Check DND 2515 required for translated publications?

Answer 5: No, there is no need for the DND 2515 for translated publications.

Question 6: A1.2.3.7.2.6 – Can you provide clarification for requirement A1.2.3.7.2.6

Answer 6: Using a single x-ray image, “Emboss” is a directional difference filter in the software used to enhance edges in the image based on contrast to highlight the shape of objects in the image.

Question 7: A1.4.3.2 – Is this the same as A1.2.3.7.2.6?

Answer 7 : No. A1.4.3.2 is accomplished using two offset or orthogonal x-rays. The two images are combined in the software to give a 3-axis spatial rendering of the objects in the images. SOW paragraph A1.4.3.2 has been amended to:
"The DRPS should display scanned images with a visual depth assisting the user in determining where and object is located in 3-axis"

Question 8: Please confirm that there is no requirement for an Illustrated Parts Manual.

Answer 8: There is no requirement for an Illustrated Parts Manual with the delivery of the equipment.

Question 9: A1.2.1.4.1.1 – Please confirm that the Getac Computer will be supplied by DND.

Answer 9: The Getac computer will be supplied by DND.

Question 10: A1.3.2 – Does the weight limit include protective coverings for the panel and accessories necessary to meet the requirements?

Answer 10: Yes, the weight limit includes protective coverings for the panel and accessories necessary to meet the requirement.

Question 11: A1.4.6.1 - Does the panel by itself have to meet the IP67 requirement or can a cover be added?

Answer 11: The panel must meet the IP67 requirement without cover.

Question 12: A1.4.6.1 – Do accessories required to operate the system that are in proximity to the panel have to meet the IP67 requirement?

Answer 12: All accessories required to operate the panel must meet the IP67 rating without additional covers. SOW paragraph A1.4.3.2 and Bid Evaluation M9 have been amended to "The DR Panel and accessories must have no less than an IP67 rating, or equivalent, IAW NEMA IEC 60529, when operating in Wireless Link Mode and Wired Link Mode."

Question 13: A1.4.7.1- Does the panel by itself have to meet the impact survivability requirement or can a cover be added.

Answer 13: The panel must meet the impact survivability requirement without an additional cover.

Question 14: Para 3.1.3 of Part 3 – Bid Preparation Instructions invokes SACC Manual Clause C3011T denying any exchange rate fluctuation risk mitigation for bidders. However, Para 4.2.1 of Part 4 invokes SACC Manual Clause A0222T relating to the comparison of bids submitted by Canadian and Foreign bidders. This infers that bids in a foreign currency will be converted to Canadian dollars for bid evaluation purposes, but ultimately paid out in the original currency of the bid, if that bid is recommended for the award of a contract. This effectively grants foreign bidders currency exchange rate mitigation, with the risk being borne by Canada. However, Canadian bidders are denied exchange rate risk mitigation on any portion of their bid which may involve

foreign currency transactions. Arguably, this could put Canadian bidders at an unfair disadvantage. Can Canada reconsider its position with respect to exchange rate fluctuation?

Answer 14: All bids must be submitted in CAD, 4.2.1 Mandatory Financial Criteria has been amended, therefore:

Delete:

4.2.1 Mandatory Financial Criteria in its entirety.

Insert:

4.2.1 Mandatory Financial Criteria

SACC Manual Clause A0220T (2014-06-26), Evaluation of Price.

The bid prices will be evaluated using the Financial Evaluation Table in Annex J- Financial Evaluation Criteria.

For ease of convenience, please see amended Statement of Work and Mandatory Technical Criteria hereto.

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME

STATEMENT OF WORK

FOR THE

DIGITAL RADIOGRAPHY PANEL SYSTEM

NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document must continue to apply.

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originalement doivent continuer de s'appliquer.

TABLE OF CONTENTS

1.0 SCOPE

1.1 Purpose

1.1.1 This Statement of Work (SOW) defines the work requirements for the Digital Radiography Panel System (DRPS), which will be used by the Canadian Armed Forces (CAF).

1.2 Background

1.2.1 The CAF has a mandate to render-safe and dispose of explosive ordnance, improvised explosive devices and unexploded ordnance that are located in the Canadian territory or that are found abroad on deployed operations and posing a threat to Canadian and Allied Forces.

1.2.2 Rendering-safe procedures requires the use of specialized tools, including diagnostic equipment like X-Ray systems to view the inside of suspicious objects or packages without disturbing them in order to safely determine their nature, internal structure and composition, and the best approach to neutralize them.

1.3 Intended Use

1.3.1 Explosive ordnance disposal (EOD) specialists will use the DRPS inside buildings, structures, and vehicles in the field, to help view and analyze the interior of suspicious or explosive threat objects, made of organic and/or in-organic material. Given the nature of the operations on which the CAF's EOD teams will deploy, the equipment must be reliable, robust, compact, light-weight and function in semi-protected harsh environments.

1.4 Acronyms and Abbreviations

CA	Contracting Authority
CAF	Canadian Armed Forces
CDRL	Contract Data Requirements List
CFB	Canadian Forces Base
CFSD	Canadian Forces Supply Depot
CFTO	Canadian Forces Technical Order
CMS	Contract Master Schedule
CNCGL	Controlled & Non-Controlled Goods List
CSR	Contract Status Report
DID	Data Item Description
DMC	Demilitarization Code
DND	Department of National Defence
DPA	Defence Product Act
DR	Digital Radiography
DRPS	Digital Radiography Panel System
ECL	Export Control List

ECCN	Export Control Classification Number
EEA	Equipment Environmental Assessment
EHS	Environmental Health and Safety
EOD	Explosive Ordnance Disposal
IAW	In Accordance With
ILS	Integrated Logistics Support
ILSM	Integrated Logistics Support Manager
ISO	International Organization for Standardization
ITAR	International Traffic in Arms Regulations
LIS	List of Items to be Supported
MRC	Maximum Repair Cost
NATO	North Atlantic Treaty Organization
NCAGE	NATO Commercial and Government Entity
NDID	National Defence Index of Documentation
NSN	NATO Stock Number
OEM	Original Equipment Manufacturer
OQRC	Operator Quick Reference Card
PA	Procurement Authority
PPB	Provisioning Parts Breakdown
PSPC	Public Service and Procurement Canada
R&O	Repair & Overhaul
RCE	Repair Cost Estimate
SDS	Safety Data Sheet
SOW	Statement of Work
SPTD	Supplementary Provisioning Technical Documentation
TA	Technical Authority
USML	United States Munitions List

2.0 APPLICABLE DOCUMENTS

2.1 References

2.1.1 Whereas mentioned, the following Standards must be used for the preparation of deliverables to the extent specified in this SOW.

GOVERNMENT FURNISHED INFORMATION

REFERENCE NUMBER	PROMULGATION DATE	REFERENCE TITLE
C-01-100-100/AG-008	2017-11-02	WRITER'S GUIDE FOR TECHNICAL DOCUMENTATION
C-02-007-000/AG-001	2016-01-01	CONTROLLED TECHNOLOGY ACCES AND TRANSFER (CTAT) MANUAL
C-02-008-001/TS-000	1995-02-08	GENERAL SAFETY LITHIUM BATTERIES HANDLING, STORAGE, PRESERVATION AND DISPOSAL INSTRUCTIONS
C-55-040-001/TS-002	2016-10-20	RADIO FREQUENCY SAFETY STANDARDS AND REQUIREMENTS
D-01-100-214/SF-000	2002-05-01	SPECIFICATION FOR PREPARATION OF PROVISIONING DOCUMENTATION FOR CANADIAN FORCES EQUIPMENT
D-01-400-001/SG-000	2018-01-31	STANDARD - ENGINEERING DRAWING PRACTICES
D-01-400-002/SF-000	2018-02-23	SPECIFICATION LEVELS OF ENGINEERING DRAWINGS
D-02-002-001/SG-001	2003-04-01	STANDARD – IDENTIFICATION MARKING OF CANADIAN MILITARY PROPERTY
D-LM-008-001/SF-001	1983-02-03	METHODS OF PACKAGING
D-LM-008-002/SF-001	1991-08-01	SPECIFICATION FOR MARKING FOR STORAGE AND SHIPMENT
D-LM-008-011/SF-001	1988-11-10	PREPARATION AND USE OF PACKAGING REQUIREMENTS CODES

COMMERCIALLY AVAILABLE

REFERENCE NUMBER	PROMULGATION DATE	REFERENCE TITLE
NEMA IEC 60529	N/A	DEGREES OF PROTECTION PROVIDED BY ENCLOSURES - IP CODE
R.S.C., 1985, C. H-3	1985	HAZARDOUS PRODUCTS ACT
SOR/2003-289		FEDERAL HALOCARBON REGULATIONS
SOR/2008-273		PCB REGULATIONS
SOR/2012-285		PROHIBITION OF CERTAIN TOXIC SUBSTANCES REGULATIONS
SOR/2014-254		PRODUCTS CONTAINING MERCURY REGULATIONS
SOR/2016-137		OZONE-DEPLETING SUBSTANCES AND HALOCARBON ALTERNATIVES REGULATIONS
SOR/2018-196		PROHIBITION OF ASBESTOS AND PRODUCTS CONTAINING ASBESTOS REGULATIONS

2.2 Order of Precedence

2.2.1 In the event of conflict between the content in this SOW and the referenced documents, the content of this SOW will take precedence.

3.0 PROJECT MANAGEMENT

3.1 Project Management Program

3.1.1 The Contractor must designate a Project Manager with the responsibilities to coordinate, execute, and manage the Contractor's project management activities for the Contract. The Contractor's Project Manager must have the total responsibility for all works required under the Contract.

3.1.2 The Contractor's Project Manager must be the primary point of contact between the Contractor, the DND Technical Authority (TA), and the PSPC Contracting Authority for all issues related to the Contract.

3.2 Contract Master Schedule

3.2.1 The Contractor must provide a Contract Master Schedule (CMS) IAW Contract Data Requirement List (CDRL) DRPS-PM-001 at Appendix A2.2 (page 26) to ANNEX A and its associated Data Item Deliverable (DID) DRPS-PM-001 at Appendix A3.3 (page 32) to ANNEX A.

3.2.2 The Contractor must use the approved CMS as the primary schedule for managing the project.

3.2.3 The Contractor may amend the approved CMS, without first obtaining the TA's and Contracting Authority's approval, as long as:

3.2.3.1 Payments under the contract are not affected;

3.2.3.2 The milestones dates are not affected; and

3.2.3.3 The ability of Canada to meet its obligations under the contract is not affected.

3.3 Contract Status Report

3.3.1 The Contractor must provide a Contract Status Report (CSR) IAW Contract Data Requirement List (CDRL) DRPS-PM-002 at Appendix A2.2 (page 26) to ANNEX A and its associated Data Item Deliverable (DID) DRPS-PM-002 at Appendix A3.4 (page 34) to ANNEX A.

3.4 Project Meetings

3.4.1 Meeting Organization and Coordination

3.4.1.1 The Contractor's Project Manager must be present at the Kick-off Meeting, and at other meetings when requested by Canada. If the Project Manager does not have final approval authority for decision making and changes, then the person that has that final approval authority must also be present.

3.4.2 Kick-off Meeting

3.4.2.1 The Contractor must hold and chair a Kick-off Meeting (at the Contractor's facility) no later than 21 calendar days after contract award to review and secure a common understanding of the following:

3.4.2.1.1 The requirements of the Contract;

3.4.2.1.2 The requirements of the SOW;

3.4.2.1.3 General overview of the project, risks, schedule and communication channels to follow, and

3.4.2.1.4 Other contractual and programmatic issues associated with the project as agreed between the TA, CA and the Contractor.

3.4.2.2 Refer to Meeting Documentation requirements found at ANNEX A para. 3.4.5.

3.4.3 Integrated Logistics Support (ILS) Meeting

3.4.3.1 The Contractor must hold and chair an ILS Meeting following the closure of the Kick-Off Meeting (see 3.4.2), in order to:

3.4.3.1.1 Review and secure a common understanding of the requirements expressed in the ILS CDRLs and DIDs, DND Canadian Forces Technical Orders (CFTO)s and specifications; and,

3.4.3.1.2 Discuss possible sparing strategies and concepts, Lowest Replaceable Units (LRUs), and lines of maintenance.

3.4.3.2 Refer to Meeting Documentation requirements found at ANNEX A para. 3.4.5.

3.4.4 Other meetings

3.4.4.1 The Contractor and the TA may schedule informal reviews, such as teleconferences, video conferences, briefings and technical interchange meetings, to help achieve the requirements of the Contract.

3.4.5 Meeting Documentation

3.4.5.1 The Contractor must prepare and deliver a meeting agenda for all formal meetings and conferences, and prepare and deliver the meeting minutes afterwards.

3.4.5.1.1 The Contractor must provide the Meeting Agenda(s) IAW CDRL DRPS-PM-003 at Appendix A2.2 (page 26) to ANNEX A and its associated DID DRPS-PM-003 at Appendix A3.5 (page 35) to ANNEX A.

3.4.5.1.2 The Contractor must record, prepare, and provide the Meeting Minutes of each meeting IAW CDRL DRPS-PM-004 at Appendix A2.2 (page 26) to ANNEX A and its associated DID DRPS-PM-004 at Appendix A3.6 (page 36) to ANNEX A.

3.4.5.2 No change in the interpretation of the SOW, Technical Specification, cost, and schedule, as defined in the Contract, may be authorized by the minutes of a meeting. Such changes will require formal contract amendment by the CA.

4.0 INTEGRATED LOGISTICS SUPPORT (ILS)

4.1 Maintenance Concept

4.1.1 The DRPS will be maintainable by CAF operators in a field environment as prescribed for each item of equipment:

4.1.1.1 **Operator Maintenance** – consisting of preventive and minor corrective maintenance tasks by repair or replacement of parts, as well as equipment cleaning. Task duration generally less than one (1) hour.

4.1.2 The more in-depth maintenance tasks, consisting of corrective maintenance tasks, reconditioning of assemblies and component rebuilds, will be done through a Support Contract.

4.2 Instruments, Decals, Data Plates and Warnings

4.2.1 The Contractor must deliver all instruments, decals and data plates marked in metric units.

4.2.2 Where international symbols are not possible, the Contractor must provide bilingual markings in English and Canadian French, as per paragraph 4.4.4.

4.2.3 The Contractor must provide warning and precautionary data plates in both official languages of Canada (English and Canadian French) in order to protect personnel and equipment, as per paragraph 4.4.4.

4.3 Access to the Radiofrequency Spectrum

4.3.1 The Contractor must ensure that Radio Frequency equipment, systems, sub-systems, Configuration Items, and end products are certified by Innovation, Science and Economic Development Canada or meet Spectrum Supportability.

4.3.2 For DRPS Radio Frequency components (transmitting and receiving), the Contractor must provide the Application for Spectrum Supportability IAW CDRL DRPS-ILS-201 at Appendix A2.2 (page 26) to Annex A, and its associated DID DRPS-ILS-201 at Appendix A3.7 (page 37) to this ANNEX A.

4.3.2.1 Spectrum Supportability is granted when Radio Frequency equipment is found to be in conformity with National Spectrum Policy and Standards to ensure compatibility with existing Radio Frequency equipment, both military and civilian, currently operating in the same frequency band.

4.3.2.2 DND policy, standards, and organization for spectrum management and instructions for obtaining frequency supportability and licensing can be found in B-GT-D35-001/AG-000 (DNDP 35) Management of the Radio Frequency Spectrum. National Spectrum Policy and Standards can be found on Innovation, Science and Economic Development Canada's website (http://www.ic.gc.ca) at: http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf01841.html.

4.4 Technical Publication Package

4.4.1 The Contractor must prepare and deliver the following Technical Publications:

4.4.1.1 Operator and Comprehensive Maintenance Manual

4.4.1.1.1 The Contractor must provide an Operator and Comprehensive Maintenance Manual IAW CDRL DRPS-ILS-202 at Appendix A2.2 (page 26) and its associated DID DRPS-ILS-202 at Appendix A3.8 (page 58) to this ANNEX A.

4.4.1.2 Operator Quick Reference Card

4.4.1.2.1 The Contractor must provide an Operator Quick Reference Card IAW CDRL DRPS-ILS-203 at Appendix A2.2 (page 26) and its associated DID DRPS-ILS-203 at Appendix A3.9 (page 60) to ANNEX A.

4.4.1.3 Operator Training Package

4.4.1.3.1 The Contractor must provide an Operator Training Package IAW CDRL DRPS-ILS-204 at Appendix A2.2 (page 26) and its associated DID DRPS-ILS-204 at Appendix A3.10 (page 62) to ANNEX A.

4.4.2 Front Matter

4.4.2.1 The Contractor must include the following in each Technical Publication (except in the Operator Quick Reference Card):

4.4.2.1.1 A cover page (a template will be provided by the Integrated Logistics Support Manager (ILSM)) showing the date the publication was issued and the model/system designation;

4.4.2.1.2 A List of Effective Pages;

4.4.2.1.3 A Revision Control Table;

4.4.2.1.4 A detailed Table of Contents and List of Figures & Tables; and

4.4.2.1.5 An Acronyms and Abbreviations table

4.4.3 Supplementary Information

4.4.3.1 The Contractor must provide supplementary information, in the portions of text that require it, with one or more of the following notices, in the order listed:

4.4.3.1.1 **Danger.** The danger advisory will be used to draw attention to an extreme, violent and continuous hazard to life;

4.4.3.1.2 **Warning.** The warning advisory will be used to emphasize an operating or maintenance procedure, practice, condition, statement, which if not strictly observed, could result in injury to or death of personnel;

4.4.3.1.3 **Caution.** The caution advisory will be used to emphasize an operating or maintenance procedure, practice, condition, statement, which if not strictly observed, could result in maintenance, damage to or destruction of equipment, loss of mission effectiveness or long-term health hazards to personnel;

4.4.3.1.4 **Note.** The note will be used to point out a procedure, event or practice that is desirable to highlight; and,

4.4.3.1.5 **Example.** The example will be used when required to clarify the preceding text.

4.4.4 Official Language Requirements

4.4.4.1 The Contractor must deliver all Technical Publications in English and Canadian French.

4.4.4.2 The Contractor must have all Technical Publications translated by certified translators, such as members of an authorized provincial association of translators, to ensure the quality of translated text.

4.4.4.3 The Contractor must ensure all translations are consistent with approved DND terminology. Approved terminology sources, in order of priority, are as follows:

4.4.4.3.1 Canadian Oxford Dictionary Second Edition (for English);

4.4.4.3.2 Le Petit Robert Edition 2017 (for French); and

4.4.4.3.3 Termium, PSPC Translation Bureau Linguistic Data Bank (http://www.termiumplus.gc.ca/);

4.4.4.4 The Contractor must review and accept responsibility for the validity of all (both their own and all sub-Contractors) information found in the Technical Publications.

4.5 Provisioning Documentation

4.5.1 The Provisioning Documentation (PD) lists and describes in detail the parts that make up the DRPS as well as all specialized and specific items required to support the use and maintenance of the DRPS. The PD allows the DRPS's Integrated Logistics Support Manager (ILSM) to plan and implement a sparing and support strategy.

4.5.2 Included in the PD are all the procurable parts — either from the Contractor or a third-party — of the DRPS to the Lowest Replaceable Unit (LRU). Also considered procurable parts are the consumables required to operate and maintain the DRPS (chemicals, specific lubricants, etc.) and specialized equipment (special tools, training aids, transport containers, etc.) specific to the DRPS.

4.5.3 The Contractor must prepare and deliver the following Provisioning Documentation:

4.5.3.1 Provisioning Parts Breakdown

4.5.3.1.1 The Contractor must provide a Provisioning Parts Breakdown IAW CDRL DRPS-ILS-205 at Appendix A2.2 (page 26) and its associated DID DRPS-ILS-205 at Appendix A3.11 (page 64) to this ANNEX A.

4.5.3.2 Supplementary Provisioning Technical Documentation

4.5.3.2.1 The Contractor must provide Supplementary Provisioning Technical Documentation IAW CDRL DRPS-ILS-206 at Appendix A2.2 (page 26)

and its associated DID DRPS-ILS-206 at Appendix A3.12 (page 67) to this ANNEX A.

4.6 Identification Plates

4.6.1 The Contractor must provide Identification Plates – Design Template & Populated Designs IAW CDRL DRPS-ILS-207 at Appendix A2.2 (page 26) and its associated DID DRPS-ILS-207 at Appendix A3.13 (page 69) to this ANNEX A.

4.6.2 The Contractor must attach Identification Plates to the following components for ease of tracking within the Canadian Forces Supply System:

4.6.2.1 Prime Equipment;

4.6.2.2 Spares;

4.6.2.3 Training Equipment, if any;

4.6.2.4 Transportation, Shipping, Storage Containers that are not single-use;

4.6.2.5 Support Equipment (excluding common tools), and

4.6.2.6 Automatic Test Equipment.

4.7 Controlled & Non-Controlled Goods List

4.7.1 The Contractor must provide the Controlled & Non-Controlled Goods List with the Demilitarization Code (DMC) IAW DRPS-ILS-208 at Appendix A2.2 (page 26) and its associated DID DRPS-ILS-208 at Appendix A3.14 (page 71) to this ANNEX A.

4.8 Identification Labels for Storage & Shipment and Packaging Codes

4.8.1 The Contractor must supply all parts and equipment, packaged and packed as per D-LM-008-001/SF-001 following:

4.8.1.1 Level C Minimum Military Package;

4.8.1.2 Level C Minimum Military Pack;

4.8.2 The Contractor must label all packaging, produced under 4.8.1 above, as per D-LM-008-002/SF-001, using D-LM-008-011/SF-001 to prepare the required codes for packaging and preservation.

4.8.3 The Contractor must provide Identification Labels for Storage & Shipment and Packaging Codes IAW CDRL DRPS-ILS-209 at Appendix A2.2 (page 26) to Annex A, and its associated DID DRPS-ILS-209 at Appendix A3.15 (page 73) to this ANNEX A.

4.9 List of Items to be Supported (for Support SOW)

4.9.1 The Contractor must provide a List of Items to be Supported IAW CDRL DRPS-ILS-210 at Appendix A2.2 (page 26) to Annex A, and its associated DID DRPS-ILS-210 at Appendix A3.16 (page 75) to this ANNEX A.

4.10 Training Session

4.10.1 The Contractor must provide the Training Session after delivery of the DRPS.

4.10.1.1 Scheduling of the Training Session will be done after contract award, and jointly planned between the DND and the Contractor.

4.10.2 The Contractor must provide the Training Session consisting of:

4.10.2.1 Operator Training Session (train-the-trainer type) for one (1) to ten (10) students with a course length of one (1) day.

4.10.3 The Contractor must provide the Training Session in English. The instructor(s) must be bilingual or have assistance from a bilingual Subject Matter Expert in order to understand and answer questions from students in both official languages: English and Canadian French.

4.10.4 The Contractor must provide Instructor(s) that are Subject Matter Experts on the DRPS equipment being provided.

4.10.5 The Contractor must use the approved and accepted **Operator Training Package** for the Training Session(s), and course lessons must follow the content found within the training package.

4.10.6 The Contractor must provide the course material listed within the **Operator Training Package** CDRL as being 'Issued to Students at Training Session(s)', and all course material and handouts must be provided in English and Canadian French.

4.10.7 The Contractor must use the DRPS(s) and additional training material identified in the **Operator Training Package Instructor Lesson Plan**, for the Training Session.

4.10.7.1 The Contractor must provide the additional training material that is listed in the **Operator Training Package Instructor Lesson Plan** as 'supplied by the Contractor'.

4.10.7.1.1 Canada will supply the scenario objects for the Training Session.

4.10.7.2 The Contractor must set-up the DRPS(s) and additional training material that is listed in the **Operator Training Package Instructor Lesson Plan** as 'supplied by the Contractor', for the Training Session.

5.0 ENVIRONMENTAL HEALTH AND SAFETY

5.1 General

5.1.1 Substances listed under Prohibition of Certain Toxic Substances Regulations (SOR/2012-285) must not be incorporated in any part of the equipment.

5.1.2 Asbestos and asbestos containing products must not be incorporated in any part of the equipment, in accordance with the Prohibition of Asbestos and Products containing Asbestos Regulations (SOR/2018-196).

5.1.3 Halocarbons that are incorporated into the design of equipment, must comply with the Federal Halocarbon Regulations (SOR/2003-289) and the Ozone-depleting Substances and Halocarbon Alternatives Regulations (SOR/2016-137). If such substances must be used, the Contractor must:

5.1.3.1 Inform the Technical Authority by identifying the substance(s).

5.1.3.2 Identify the specific location within the equipment and its concentration.

5.1.4 The Mercury that is present in any part of the equipment, must comply with the mercury content limit as identified in the Products Containing Mercury Regulations (SOR/2014-254). If such substances must be used, the Contractor must:

5.1.4.1 Inform the Technical Authority by identifying the substance(s).

5.1.4.2 Identify the specific location within the equipment and its concentration.

5.1.5 Polychlorobiphenyl (PCBs) that are present in any part of the equipment, must comply with the PCB Regulations (SOR/2008-273). If such substances must be used, the Contractor must:

5.1.5.1 Inform the Technical Authority by identifying the substance(s).

5.1.5.2 Identify the specific location within the equipment and its concentration.

5.1.6 The Department is committed to the Federal programs to reduce and eliminate emissions from toxic substances. Contractors must identify and submit justifications for the use of all regulated products and those containing substances identified within the National Pollutant Release Inventory (NPRI,https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/substances-list/threshold.html) and List of Challenge Substances (https://www.canada.ca/en/health-canada/services/chemical-substances/challenge/list.html), and also the Toxic substances list (those identified within Schedule 1 of the Canadian Environmental Protection Act: https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/substances-list/toxic/schedule-1.html) to the technical authority for approval.

5.1.7 Canada Labour Code, Part II dictates that the least hazardous materials should be used at the workplace. Therefore, the Contractor is to strive to use the least hazardous product that meets the requisite performance requirements.

5.1.8 The Contractor must incorporate Environmental Health and Safety (EHS) warnings and instructions in direct relation of the EHS risks presented in the contents into documentation.

5.2 Environmental Management System

5.2.1 The Contractor must have a management system in place to control environmental, health and safety impacts resulting from their activities, products and services.

5.2.2 The Contractor must have a formalized set of procedures and control measures in place to achieve conformance with the requirements of this Work, while ensuring environmental, health and safety protection and pollution prevention.

5.2.3 The Contractor must also make reasonable effort to monitor that all subcontractors are in compliance with applicable environmental laws and regulations.

5.3 EHS Packaging Labels

5.3.1 The Contractor must label and ship goods falling within the Hazardous Products Act, R.S.C. 1985, C. H-3 and regulation(s) there under, in accordance with the said Act and regulation(s).

5.3.1.1 The Contractor must clearly identify the contents of the hazardous material with labels, and the SDS must explain what those hazards are.

5.4 Equipment Environmental Assessment

5.4.1 The Contractor must provide an Equipment Environmental Assessment (EEA) IAW CDRL DRPS-ILS-211 at Appendix A2.2 (page 26) to Annex A, and its associated DID DRPS-ILS-211 at Appendix 0 (page 77) to this ANNEX A.

5.4.2 The Contractor must include appropriate warnings and instructions to mitigate these risks in technical documents.

5.4.3 The Contractor may provide confidential information in a separate document.

6.0 TECHNICAL REQUIREMENTS

6.1 Overview

6.1.1 The Contractor must comply with all specified requirements of the DRPS, stated in:

6.1.1.1 A1.0 APPENDIX: DRPS TECHNICAL SPECIFICATION

A1.0 APPENDIX: DRPS TECHNICAL SPECIFICATION

A1.1 System Requirements

A1.1.1 General

A1.1.1.1 The Digital Radiography Panel System (DRPS) must be based on proven, fielded equipment that is in-service with a North Atlantic Treaty Organization (NATO) or American, British, Canadian, Australian military partner or police agency of those countries.

A1.1.1.2 The DRPS must consist of the following components, and is further described in detail under the **System Component Requirements** section:

A1.1.1.2.1 One (1) Digital Radiography (DR) Panel, and cable set;

A1.1.1.2.2 Two (2) DR Panel Support Structures;

A1.1.1.2.3 Imaging Software (including Database);

A1.1.1.2.4 One (1) Battery Charging System; and

A1.1.1.2.5 One (1) Hard Transport Container for the above components.

A1.1.1.3 The DRPS must include (stored within the Hard Transport Container) all tools required to setup and maintain the DRPS in accordance with the **Operator Maintenance** Concept ANNEX A paragraph 4.1.1.1 (page 10).

A1.1.1.4 The DRPS must include (stored within the Hard Transport Container without needing to be folded or otherwise distorted from flat) the Technical Publication(s) listed within the CDRL(s) as being 'Issued with each DRPS'.

A1.1.2 Transportability

A1.1.2.1 The DRPS, when stored within the Hard Transport Container, must be transportable with no more than 10 minutes preparation time.

A1.1.2.2 The DRPS must be transportable by fixed and rotary wing aircraft, cargo ships, rail, and commercial and military wheeled vehicles on highways and cross-country.

A1.1.3 Electrical Protection Requirements

A1.1.3.1 DRPS must be protected with fuses or circuit breakers to provide current surge protection for electronics.

A1.1.3.2 If any Lithium or Lithium-polymer batteries are used in the DRPS, then the procedures must be in accordance with C-02-008-001/TS-000 General Safety Lithium Batteries Handling, Storage Preservation and Disposal Instructions.

A1.2 System Component Requirements

A1.2.1 DR Panel

A1.2.1.1 The DR Panel must be reusable.

A1.2.1.2 The DR Panel must be of the Digital Radiography type without any moving parts.

A1.2.1.3 The DR Panel must connect to and control the Golden Engineering XRS-3 (NSN 01-675-3759) 20 V version with 7 pin connector, that is in-service with DND, as a source to generate the X-rays.

A1.2.1.3.1 Cable length between the DR Panel and XRS-3 must be no less than two (2) m.

A1.2.1.4 The DR Panel must operate in wireless and wired mode:

A1.2.1.4.1 Wired Link Mode

A1.2.1.4.1.1 The DR Panel must have the following two (2) Ethernet based hardwired links from the DR Panel to the GETAC® V110 G5 computer, that uses the Transmission Control Protocol/Internet Protocol (TCP/IP) communication protocols:

A1.2.1.4.1.1.1 Hardwired link cable of no less than two (2) m.

A1.2.1.4.1.1.2 Hardwired link cable of no less than 50 m.

A1.2.1.4.2 Wireless Link Mode

A1.2.1.4.2.1 The DR Panel must have a wireless link mode from the DR Panel to the GETAC® V110 G5 computer with a range of no less than 200 m.

A1.2.2 DR Panel Support Structure

A1.2.2.1 The DR Panel Support Structure must allow for the DR Panel to be positioned and held securely next to the object being X-rayed.

A1.2.3 Imaging Software (including Database)

A1.2.3.1 The Imaging Software must operate on the GETAC® V110 G5 computer, system specifications are as follows:

A1.2.3.1.1 Windows® 10 Enterprise 64 bit;

A1.2.3.1.2 8th Gen Intel® Core™ i5-8365U vPro™ processor;

A1.2.3.1.3 Memory 16GB SDRAM;

A1.2.3.1.4 Display 11.6" HD 1920 x 1080;

A1.2.3.1.5 Video card Intel® HD Graphics 620;

A1.2.3.1.6 Storage 512GB removable SSD;

A1.2.3.2 The Imaging Software must be provided electronically so that it can be imaged (installed) on the GETAC® V110 G5 computer by DND.

A1.2.3.3 Data Storage

A1.2.3.3.1 Images stored by the Imaging Software must have the following data descriptors:

A1.2.3.3.1.1 Operator/Technician name;

A1.2.3.3.1.2 Date and Time;

A1.2.3.3.1.3 Location;

A1.2.3.3.1.4 Filename;

A1.2.3.4 Additional Data Descriptors

A1.2.3.4.1 The Imaging Software must allow for user input of additional data descriptors and other possible annotations, such as X-ray source used, number of X-ray source pulses, category, and project name.

A1.2.3.5 Database Management Tool

A1.2.3.5.1 The Imaging Software must include a database management tool.

A1.2.3.6 Database Functions

A1.2.3.6.1 The Imaging Software must have sort and query functions including collect, search, and import-export images and associated information/descriptors.

A1.2.3.6.2 The Imagining Software must export files that can be imported by the Sandia National Laboratories X-Ray Toolkit™ (XTK®) software.

A1.2.3.7 Image Enhancement Functions

A1.2.3.7.1 The Imaging Software must have image manipulation and enhance functions, and automatically protect and preserve a copy of the original untouched image for historical record.

A1.2.3.7.2 Manipulation and enhancement of images must include the following:

A1.2.3.7.2.1 Histogram equalization;

A1.2.3.7.2.2 Image sharpness;

A1.2.3.7.2.3 Brightness and contrast;

A1.2.3.7.2.4 Gamma correction;

A1.2.3.7.2.5 Pseudo color or Colorize;

A1.2.3.7.2.6 Emboss or Pseudo 3D;

A1.2.3.7.2.7 View multiple images on screen;

A1.2.3.7.2.8 Point to point distance measurement (metric and imperial);

A1.2.3.7.2.9 Image rotation;

A1.2.3.7.2.10 Region of Interest enhancement; and

A1.2.3.7.2.11 Undo and Redo functions.

A1.2.3.8 Image File Format

A1.2.3.8.1 The Imaging Software must save (including export) images to the database in TIFF, JPEG, and BMP formats, as selected by the user.

A1.2.4 **Battery Charging System**

A1.2.4.1 The Battery Charging System must include a universal power input of 110VAC – 220VAC, 50Hz – 60Hz, with a North American plug type.

A1.2.4.2 The Battery Charging System must provide visual indications of battery charging in order to indicate when charging is in progress and when it is complete.

A1.2.4.3 The Battery Charging System full re-charge time for one (1) Battery Set must not exceed eight (8) hours.

A1.2.4.4 The Battery Charging System must be certified CE, UL or equivalent.

A1.2.5 **Hard Transport Container**

A1.2.5.1 The Hard Transport Container must have no less than an IP66 rating, or equivalent, IAW NEMA IEC 60529.

A1.3 Physical Requirements

A1.3.1 **Size**

A1.3.1.1 The DR panel must have an imaging area size of no less than 400 mm by 350 mm.

A1.3.1.2 The DR panel must be no more than 550 mm by 550 mm by 50 mm in size.

A1.3.2 **Weight**

A1.3.2.1 The DRPS, as per para. A1.1.1.2, must weigh no more than 25 kg.

A1.3.2.2 The DR Panel must weigh no more than 10 kg.

A1.3.3 **Colour**

A1.3.3.1 The DRPS, as per para. A1.1.1.2, must have the predominant exterior colour (so that it contributes to and does not compromise an operator's camouflage) of:

A1.3.3.1.1 Flat/matte finish green;

A1.3.3.1.2 Flat/matte finish earth tone;

A1.3.3.1.3 Flat/matte finish grey, or

A1.3.3.1.4 Flat/matte finish black.

A1.4 Performance Requirements

A1.4.1 Image Resolution

A1.4.1.1 The DRPS must have an analog to digital conversion range of no less than 16 bits.

A1.4.1.2 The DR Panel must provide an image with a resolution of no more than 155 micrometers (155 µm).

A1.4.2 Image Rendering Time

A1.4.2.1 The DRPS must provide an image in no more than 10 seconds from the time when the DR Panel is exposed to X-rays.

A1.4.3 Advanced Imaging

A1.4.3.1 The DRPS must detect, display and differentiate organic and inorganic material within the scanned image.

A1.4.3.2 The DRPS should display scanned images with a visual depth assisting the user in determining where an object is located in 3-axis.

A1.4.4 Wireless Configuration

A1.4.4.1 The DRPS must operate within either the commercial 2.4 GHz or 5 GHz bandwidth in the wireless link mode.

A1.4.4.2 The DRPS must meet requirements of DND/CAF RF Safety Program IAW DAOD 3026-0, DAOD 3026-1 and CFTO C-55-040-001/TS-002, and it must be in compliance with the requirements of Health Canada's Safety Code 6: Limits of Human Exposure to Radio frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz.

A1.4.5 Operation and Setup time

A1.4.5.1 The DRPS must be set up from the storage configuration to the fully operable configuration in no more than 10 minutes by a trained operator.

A1.4.5.2 The DR Panel must have a built-in rechargeable battery providing no less than two (2) hours of operation, assuming no more than 30 scans in the two (2) hours.

A1.4.5.3 The DR Panel must provide a visual indication of a low battery level.

A1.4.6 **Ingress Protection**

A1.4.6.1 The DR Panel and accessories must have no less than an IP67 rating, or equivalent, IAW NEMA IEC 60529, when operating in Wireless Link Mode and Wired Link Mode.

A1.4.7 **Impact Survivability**

A1.4.7.1 The DR Panel and accessories must remain fully functional when dropped from a height of no less than 75 centimeters, impacting a rigid surface, and dropped in any orientation.

A1.5 Environmental/Climatic Requirements

A1.5.1 **Climatic Conditions**

A1.5.1.1 The DRPS must operate in temperatures from –19ºC to +50ºC.

A1.5.1.2 The DRPS must operate in relative humidity from 5% to 100%.

A2.0 APPENDIX: CONTRACT DATA REQUIREMENTS LIST

A2.1 Management and Explanation of the CDRL

A2.1.1 Management of Data Items

A2.1.1.1 The Contractor must review, update and deliver amendments, or confirm the continuing accuracy of data items annotated with a maintenance period, in accordance with the CDRL.

A2.1.1.2 The Contractor must deliver amended, reissued or resubmitted data items to the location(s) and in the format and quantities specified in the CDRL for the initial submission of the data items.

A2.1.2 Explanation of the CDRL

A2.1.2.1 **CDRL Line Number** – This field provides the unique sequential number that identifies each data item within different functional groups (eg, PM-001, SE-101, & ILS-201).

A2.1.2.2 **CDRL Title** – This field identifies the title of the data item.

A2.1.2.3 **SOW Para Ref** – This field shows the paragraph in the SOW where the data item is stipulated. There may be multiple references to the data item in the SOW, but generally only the first (or one) reference is shown in the CDRL.

A2.1.2.4 **Version** – This field identifies the particular delivery of a data item during its lifecycle (ie, draft, final).

A2.1.2.5 **Delivery Schedule** – This field specifies the date(s) and/or events by which the data item is required to be delivered. The date of delivery applies to all delivery locations and quantities unless otherwise specified. Following are some of the abbreviations and symbols used with this column:

A2.1.2.5.1 'KO' means the Kick-Off Meeting date;

A2.1.2.5.2 Numerals indicate the number of Calendar Days, unless specified otherwise;

A2.1.2.5.3 '+' means after the specified date or event; and

A2.1.2.5.4 '-' means before the specified date or event.

A2.1.2.5.5 If a data item is required to be delivered before an event having a duration of greater than one day, delivery date must be calculated from the first day of that event. If a data item is required to be delivered after an event having a duration of greater than one day, the delivery date must be calculated from the last day of that event.

A2.1.2.6 **Quantity** – This field specifies the total number of data items to be delivered to the associated delivery location(s), including the number of hard (H) and soft (S) copies. When both hard and soft copies are requested, the action copy will be indicated in the notes column.

A2.1.2.7 **Addressee** – This field shows the short title of the DND representative to whom the hard and soft copies of the data items must be delivered. The action hard copy of the data item must be delivered to the first nominated location in this field.

A2.1.2.8 **Data Item Description Reference** – This field provides the identification of the DID with which the data item must comply.

A2.1.2.9 **DND Action Period** – This field defines the number of Calendar Days available to the DND to action the data item and respond to the Contractor, if that action requires a response.

A2.1.2.9.1 The period begins upon the date the action copy of the data item is received at the first nominated addressee.

A2.1.2.9.2 The action period applies to all deliveries, including first deliveries, amendments and re-issues. If a data item is delivered earlier than the first delivery date shown in the CDRL, the DND is not obliged to action it until after that date. If the action period states 'by MSR' for a data item delivered prior to a Mandated System Review (MSR), the action period ends when the minutes for that MSR are approved.

A2.1.2.10 **DND Action Required** – This field indicates the purpose for which the data item is being submitted to the DND, which will either be for Review, Approval or Acceptance.

A2.1.2.11 **Maintenance** – This field specifies either the timings or the time intervals, after each delivery, at which the data item must be reviewed by the Contractor and either have its continuing accuracy status confirmed in writing, or be updated and reissued. The Maintenance column does not apply to draft or preliminary versions of data items. The following abbreviations and codes are applicable to this column:

A2.1.2.11.1 xM – every x calendar months;

A2.1.2.11.2 R – to enable it to be considered at each MSR set out in the System Engineering program;

A2.1.2.11.3 SA – to enable it to be provided for the purposes of conducting Acceptance of each System;

A2.1.2.11.4 FA – to enable it to be provided for the purposes of Final Acceptance; and

A2.1.2.11.5 NA or blank – not applicable.

A2.1.2.12 Notes: Where necessary, additional explanatory information relating to a CDRL data item is provided in this column.

A2.2 CDRL Item List

CDRL #	CDRL Title	SOW Para Ref	Version	Delivery Schedule	Qty	Addressee	DID # and Ref	DND Action Period	DND Action Required	Maint	Notes
DRPS-PM-001	Contract Master Schedule	Para. 3.2.1 (pg. 8)	Draft	KO	1S	TA	DRPS-PM-001	14	Review		Update aligned with Contract Status Report
			Revised or Final	DND Comments + 14	1S	TA, CA, PA, ILSM	App. A3.3 (pg. 32)	7	Review or Acceptance		
			Updates	With Contract Status Report, when changed	1S	TA, CA, PA, ILSM			Review		
DRPS-PM-002	Contract Status Report	Para. 3.3.1 (pg. 8)	Draft	KO+28	1S	TA, ILSM	DRPS-PM-002	14	Review		
			Revised or Final	DND Comments + 7	1S	TA, CA, PA, ILSM	App. A3.4 (pg. 34)	7	Review or Acceptance		
			Updates	Monthly	1S	TA, CA, PA, ILSM			Review		
DRPS-PM-003	Meeting Agenda	Para. 3.4.5.1.1 (pg. 9)	Draft	Meeting Date - 7	1S	CA, TA, PA	DRPS-PM-003	5	Review		
			Revised	Meeting Date - 1	1S	CA, TA, PA	App. A3.5 (pg. 35)				
			Final	Meeting Date	1H	CA, TA, PA		7	Review or Acceptance		
DRPS-PM-004	Meeting Minutes	Para. 3.4.5.1.2 (pg. 9)	Draft	Meeting Date + 7	1S	CA, TA, PA	DRPS-PM-004	7	Review		
			Revised or Final	DND Comments + 7	1S	CA, TA, PA	App. A3.6 (pg. 36)	7	Review or Acceptance		
DRPS-ILS-201	Application of Spectrum Supportability	Para. 4.3.2 (pg. 10)	Draft	KO + 21	1S	TA	DRPS-ILS-201	28	Review		
			Revised or Final	DND Comments + 21	1S	TA	App. A3.7 (pg. 37)	14	Review or Acceptance		

CDRL #	CDRL Title	SOW Para Ref	Version	Delivery Schedule	Qty	Addressee	DID # and Ref	DND Action Period	DND Action Required	Maint	Notes
DRPS-ILS-202	Operator and Comprehensive Maintenance Manual	Para. 4.4.1.1 (pg. 11)	Draft English	KO + 70	1S, 1H	ILSM	DRPS-ILS-202	21	Review		Hard copy is the action copy.
			Revised or Final English	DND Comments + 21	1S, 1H	ILSM	App. A3.8 (pg. 58)	14	Review or Acceptance		
			Draft Bilingual	Acceptance of English Operator and Comprehensive Maintenance Manual + 49	1S, 1H	ILSM		14	Review		
			Revised or Final Bilingual	DND Comments + 14	1S, 1H	ILSM		14	Review or Acceptance		
			Final		1H	Issued with each DRPS					
DRPS-ILS-203	Operator Quick Reference Card	Para. 4.4.1.2.1 (pg. 11)	Draft English	With English Draft Operator and Comprehensive Maintenance Manual	1S, 1H	ILSM	DRPS-ILS-203	14	Review		Hard copy is the action copy.
			Revised or Final English	DND Comments + 14	1S, 1H	ILSM	App. A3.9 (pg. 60)	14	Review or Acceptance		New versions could also be triggered by revisions to the Operator and Comprehensive Maintenance Manual
			Draft Bilingual	With Bilingual Draft Operator and Comprehensive Maintenance Manual	1S, 1H	ILSM		14	Review		
			Revised or Final Bilingual	DND Comments + 14	1S, 1H	ILSM		14	Review or Acceptance		

CDRL #	CDRL Title	SOW Para Ref	Version	Delivery Schedule	Qty	Addressee	DID # and Ref	DND Action Period	DND Action Required	Maint	Notes
			Final		1H	Issued with each DRPS					
DRPS-ILS-204	Operator Training Package	Para. 4.4.1.3.1 (pg. 11)	Draft English	Acceptance of English Operator and Comprehensive Maintenance Manual + 28	1S, 1H	ILSM	DRPS-ILS-204	21	Review		Hard copy is the action copy.
			Revised or Final English	DND Comments + 14	1S, 1H	ILSM	App. A3.10 (pg. 62)	14	Review or Acceptance		
			Draft Bilingual	Acceptance of Bilingual Operator Manual + 42	1S, 1H	ILSM		21	Review		
			Revised or Final Bilingual	DND Comments + 14	1S, 1H	ILSM		14	Review or Acceptance		
			See notes		1S, 1H	Issued to Students at the Training Session(s)					Hard copy of Student Handout only, and soft copy on CD of the Operator Training Package.
DRPS-ILS-205	Provisioning Parts Breakdown	Para. 4.5.3.1.1 (pg. 12)	Draft	Same time as the draft Operator and Comprehensive Maintenance Manual	1S, 1H	ILSM	DRPS-ILS-205	14	Review		Soft copy is the action copy.
			Revised or Final	DND Comments + 14	1S, 1H	ILSM	App. A3.11 (pg. 64)	14	Review or Acceptance		
DRPS-ILS-206	Supplementary Provisioning Technical Documentation	Para. 4.5.3.2.1 (pg. 12)	Draft	Same time as the draft Provisioning Parts Breakdown	1S	ILSM	DRPS-ILS-206	14	Review		Soft copy is the action copy.
			Revised or Final	DND Comments + 14	1S, 1H	ILSM	App. A3.12 (pg. 67)	14	Review or Acceptance		

CDRL #	CDRL Title	SOW Para Ref	Version	Delivery Schedule	Qty	Addressee	DID # and Ref	DND Action Period	DND Action Required	Maint	Notes
DRPS-ILS-207	Identification Plates – Design Template & Populated Designs	Para. 4.6.1 (pg. 13)	Draft Design Template	KO + 28	1S, 1H	ILSM	DRPS-ILS-207	14	Review		Hard copy is the action copy.
			Revised or Final Design Template	DND Comments + 14	1S, 1H	ILSM	App. A3.13 (pg. 69)	14	Review or Acceptance		
			Draft Populated Designs	Acceptance of Design Template + 28	1S, 1H	ILSM		14	Review		
			Revised or Final Populated Designs	DND Comments + 14	1S, 1H	ILSM		14	Review or Acceptance		
DRPS-ILS-208	Controlled & Non-Controlled Goods List	Para. 4.7.1 (pg. 13)	Draft	Same time as the draft Provisioning Parts Breakdown	1S	ILSM	DRPS-ILS-208	14	Review		Soft copy is the action copy.
			Revised or Final	DND Comments + 14	1S, 1H	ILSM	App. A3.14 (pg. 71)	14	Review or Acceptance		
DRPS-ILS-209	Identification Labels for Storage & Shipment and Packaging Codes	Para. 4.8.3 (pg. 13)	Draft Labels	KO + 42	1S	ILSM	DRPS-ILS-209	28	Review		
			Revised or Final Labels	DND Comments + 14	1S	ILSM	App. A3.15 (pg. 73)	14	Review or Acceptance		
			Draft Codes	Provision of NSNs + 35	1S	ILSM		21	Review		
			Revised or Final Codes	DND Comments + 14	1S	ILSM		14	Review or Acceptance		
			Updates	If required after the a range of spares are chosen by DND	1S	ILSM		14	Review or Acceptance		

CDRL #	CDRL Title	SOW Para Ref	Version	Delivery Schedule	Qty	Addressee	DID # and Ref	DND Action Period	DND Action Required	Maint	Notes
DRPS-ILS-210	List of Items to be Supported	Para. 4.9.1 (pg. 13)	Draft	Final acceptance of the Operator and Comprehensive Maintenance Manual, PPB and SPTD + 28	1S	ILSM	DRPS-ILS-210	14	Review		
			Revised or Final	DND Comments + 14	1S	ILSM	App. A3.16 (pg. 75)	14	Review or Acceptance		
DRPS-ILS-211	Equipment Environmental Assessment	Para. 5.4.1 (pg. 16)	Draft	KO + 84	1S	TA	DRPS-ILS-211	56	Review		
			Revised or Final	DND Comments + 28	1S	TA	App. A3.17 (pg. 77)	14	Review or Acceptance		

A3.0 APPENDIX: DATA ITEM DESCRIPTION

A3.1 Data Deliverable Format

A3.1.1 **Unless otherwise specified as a specific requirement, the Contractor must deliver all of the soft copies of data deliverables, in formats compatible with the office software currently in use by the DND as listed:**

A3.1.1.1 Microsoft (MS) Windows 10 Enterprise Operating System (OS), Service Pack 1;

A3.1.1.2 MS Internet Explorer (IE) 9.0 with 256 Bit Encryption;

A3.1.1.3 MS Office Professional Plus 2013 (Word, Excel, Access, PowerPoint and Outlook);

A3.1.1.4 Adobe Acrobat X; and

A3.1.1.5 WinZip 8.1 SR-1;

A3.2 DID Table Definitions

The following section defines the various blocks of information found on the Data Item Description (DID) forms:

BLOCK 1 – TITLE
The title of the data item for the DID.

BLOCK 2 - IDENTIFICATION NUMBER
The Data Item Description (DID) number, consisting of a sequential three-digit number and prefixed with an abbreviation code, to uniquely identify the DID. Note that the 001-099 series is reserved to Project Management (PM) DIDs, the 101-199 series is reserved to Systems Engineering (SE) DIDs and the 201-299 series is reserved to Integrated Logistics Support (ILS) DIDs. The abbreviation codes used for the prefix are:

"PM" for Project Management
"SE" for Systems Engineering
"ILS" for Integrated Logistics Support

BLOCK 3 - DESCRIPTION
Provides a general description of the data content requirements.

BLOCK 4 – RELATED DOCUMENT(S)
Provides a listing of the related documents and specifications associated with and required to produce this DID.

BLOCK 5 - CONTRACT REFERENCE
The specific paragraph numbers from the Contract Statement of Work and CDRL to assist in identifying the work effort associated with the data item.

BLOCK 6 - PREPARATION INSTRUCTIONS
Provides the preparation instructions for the content and format requirements for the DID.

A3.3 **DID – Contract Master Schedule**

DATA ITEM DESCRIPTION	
1. TITLE **Contract Master Schedule (CMS)**	2. IDENTIFICATION NUMBER **DID DRPS-PM-001**
3. DESCRIPTION The CMS describes the Contractor's planned sequence of activities, milestones and decision points to enable the objectives of the Contract to be met. Additionally, the CMS defines the current Contract schedule status, comparing the current schedule to the contracted schedule. The CMS also compares the current schedule status with any applicable baseline schedule.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE **SOW**: **Para. 3.2.1 (pg. 8)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT**

6.1.1. **Data to be Included**

6.1.1.1. The CMS must graphically depict the contract schedule and progress at the activity level.

6.1.1.2. The CMS must graphically present or otherwise identify:

6.1.1.2.1. activities and their estimated durations;

6.1.1.2.2. milestones, including milestones in the contract;

6.1.1.2.3. the relationships and dependencies between activities and milestones to be accomplished by or for the Contractor in the performance of its obligations under the contract;

6.1.1.2.4. earliest and latest start and finish dates for all activities and milestones;

6.1.1.2.5. critical and non-critical paths;

6.1.1.2.6. floats available on all activities and milestones;

6.1.1.2.7. allocated resources for each activity; and

6.1.1.2.8. notes on the use of the CMS, including a glossary of terms and symbols used.

6.1.1.3. The CMS must include:

6.1.1.3.1. all other schedules required under the contract (eg, the Systems Engineering schedule);

6.1.1.3.2. Subcontractor schedules, to a level of detail that is consistent with the level of detail for the Contractor's own schedule;

6.1.1.3.3. other major events, as agreed between the Contractor and DND;

6.1.1.3.4. DND tasks, where such tasks interface with, and may affect, Contractor tasks; and

6.1.1.3.5. significant reviews, such as Mandated System Reviews.

6.1.2. **Integration with Other Management Information**

6.1.2.1. The CMS must be traceable to the milestones in the contract.

6.1.3. **Narrative Analysis**

6.1.3.1. Each submission of the CMS must contain an explanation of the cause of each milestone's rescheduled forecast date that is later than the milestone's current approved scheduled baseline date for the issue of the CMS in which the rescheduled forecast date was first reported.

6.1.3.2. Subsequent issues of the CMS need only address changes from previously reported dates. The narrative analysis for the CMS must address possible impact on other milestones and activities, and must describe work-around plans to minimise the impact.

6.2. **SOFT COPY FORMAT**

6.2.1. The CMS must be the primary schedule for the contract, and all other schedules must be subordinate to the CMS.

6.2.2. The CMS must be submitted as a PDF file type.

6.2.3. The CMS must be displayed in a variety of formats, including:

6.2.3.1. a Gantt chart;

6.2.3.2. a list of all tasks, together with their planned and actual start and completion dates; and

6.2.3.3. a listing of milestones (including Milestones in the contract), together with their original, rescheduled, forecast and actual completion dates.

6.2.4. **Soft Copy format submission size below 7MB** – The CMS PDF may be submitted via email as follows:

6.2.4.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.2.4.2. Subject Field: DRPS-PM-001 – CMS – [Rev #] – [Date of Issue]

6.2.5. **Soft Copy format submission size at or above 7MB** - The CMS PDF must be submitted on CD or DVD media and be labelled as follows:

6.2.5.1. Digital Radiography Panel System

6.2.5.2. CMS;

6.2.5.3. DRPS-PM-001;

6.2.5.4. The Revision number, and

6.2.5.5. The date of issue.

A3.4 **DID – Contract Status Report**

DATA ITEM DESCRIPTION	
1. TITLE **Contract Status Report (CSR)**	2. IDENTIFICATION NUMBER **DID DRPS-PM-002**
3. DESCRIPTION The Contract Status Report (CSR) is the principal statement and explanation of the status of the contract at the end of each reporting period, and will summarize the Contractor's progress and activities in relation to the Project milestones, schedule, and contract data deliverables.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE **SOW**: **Para. 3.3.1 (pg. 8)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT**

6.1.1. The CSR must identify the date at which the CSR is valid, and the time period since the status date of the previous CSR (the 'reporting period').

6.1.2. The CSR must include the following information:

6.1.2.1. A summary of significant work activities (including those undertaken by major Subcontractors) undertaken during the reporting period;

6.1.2.2. A summary of significant work activities (including those undertaken by major Subcontractors) expected to be undertaken in the next reporting period.

6.1.2.3. A summary of progress (including progress by major Subcontractors) against the CMS.

6.1.2.4. A narrative detailing progress against milestones, expected date of completion of near milestones, problem areas and work-around plans where required;

6.1.2.5. A status report on contract data deliverable end items as called up in the CDRLs;

6.1.2.6. An engineering report, giving the status of engineering activity;

6.1.2.7. An Integrated Logistic Support (ILS) report, giving the status of ILS activity;

6.1.2.8. A list of correspondence that requires a response from the DND/PSPC, but for which no response has been received; and

6.1.2.9. A list of DND/PSPC correspondence to the Contractor for which a response is outstanding, and an estimate of the response date.

6.2. **SOFT COPY FORMAT**

6.2.1. The CSR must be submitted as a PDF file type.

6.2.2. The CSR PDF must be submitted via email (submission size not to exceed 7MB) as follows:

6.2.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.2.2.2. Subject Field: DRPS-PM-002 – CSR – [Rev #] – [Date of Issue]

A3.5 **DID – Meeting Agenda**

DATA ITEM DESCRIPTION	
1. TITLE **Meeting Agenda**	2. IDENTIFICATION NUMBER **DID DRPS-PM-003**
3. DESCRIPTION The Meeting Agenda contains the venue information and identifies the discussion items to be covered at meetings.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE **SOW**: **Para. 3.4.5.1.1 (pg. 9)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT**

6.1.1. The Meeting Agenda must set forth the venue, identify all requirements and list the discussion items to be covered at the meeting.

6.1.2. Venue. The Meeting Agenda must address the venue as follows:

6.1.2.1. Meeting Identification Number;

6.1.2.2. Purpose;

6.1.2.3. Date, time and location; and

6.1.2.4. Attendees.

6.1.3. Discussion items. The Meeting Agenda must address the discussion items through the following sections:

6.1.3.1. Opening Remarks;

6.1.3.2. Agenda Review;

6.1.3.3. Review of Previous Minutes;

6.1.3.4. Opened Discussion Items;

6.1.3.5. New Discussion Items;

6.1.3.6. Review of Action Items;

6.1.3.7. Next Venue; and

6.1.3.8. Closing Remarks.

6.2. **HARD COPY FORMAT**

6.2.1. The Meeting Agenda must be printed on paper with these characteristics:

6.2.1.1. Weight of no less than 90 gsm;

6.2.1.2. Brightness of no less than 96 ISO brightness;

6.3. **SOFT COPY FORMAT**

6.3.1. The Meeting Agenda must be submitted as a MS Word file type.

6.3.2. The Meeting Agenda MS Word document must be submitted via email (submission size not to exceed 7MB) as follows:

6.3.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.3.2.2. Subject Field: DRPS-PM-003 – Meeting Agenda – [Rev #] – [Date of Issue]

A3.6 **DID – Meeting Minutes**

DATA ITEM DESCRIPTION	
1. TITLE **Meeting Minutes**	2. IDENTIFICATION NUMBER **DID DRPS-PM-004**
3. DESCRIPTION The Meeting Minutes contains the detailed records of proceedings, discussions, decisions and action items from meetings.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE **SOW**: **Para. 3.4.5.1.2 (pg. 9)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT**

6.1.1. The Meeting Minutes must contain the detailed records of proceedings, discussions, decisions and action items from the meeting and be presented through the following sections:

6.1.1.1. General – consisting of meeting identification number, purpose, date, time and location;

6.1.1.2. Attendees, consisting of the organization each person represents, and the identification of the Chairperson(s);

6.1.1.3. Opening Remarks;

6.1.1.4. **Action Item Report** - used to monitor issues, assign responsibility, direct action and track status, history, and progress, and must consisting of:

6.1.1.4.1. Item #; date initiated; required action; assigned actionee; target completion date; cross-reference to all related action items.

6.1.1.4.2. Action Item Report must be **updated** with each meeting and must consist of:

6.1.1.4.2.1. Action Item current status and the actual date completed;

6.1.1.5. Next Venue;

6.1.1.6. Closing Remarks;

6.2. **SOFT COPY FORMAT**

6.2.1. The Meeting Minutes must be submitted as a PDF file type.

6.2.2. The Meeting Minutes PDF must be submitted via email (submission size not to exceed 7MB) as follows:

6.2.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.2.2.2. Subject Field: DRPS-PM-004 – Meeting Minutes – [Rev #] – [Date of Issue]

A3.7 **DID – Application for Spectrum Supportability**

DATA ITEM DESCRIPTION	
1. TITLE **Application for Spectrum Supportability**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-201**
3. DESCRIPTION This Application for Spectrum Supportability document (DND form 552) describes the general wireless equipment usage as well as the transmitter, antenna and receiver equipment characteristics of the system that is provided.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE **SOW**: **Para. 4.3.2 (pg. 10)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT**

6.1.1. The Application for Spectrum Supportability must be completed and provided in accordance with the requirements as outlined in the Application for Spectrum Supportability.

6.1.2. The following sections of the Application for Spectrum Supportability must be completed:

6.1.2.1. Part 1, Block 1 – Equipment Nomenclature and/or Model Number;

6.1.2.2. Part 2 – Transmitter Equipment Characteristics;

6.1.2.3. Part 3 – Receiver Equipment Characteristics, and

6.1.2.4. Part 4 – Antenna Equipment Characteristics.

6.1.3. The values entered in the Application for Spectrum Supportability must be measured values.

6.1.4. Where equipment is developmental, specified values may be substituted for measured values, and so indicated on the forms. If the proposed equipment is in use by the United States military it may already have a US Department of Defence (DoD) Form 1494. If available, a DoD 1494 form will be accepted by DND in lieu of a DND 552.

6.2. **SOFT COPY FORMAT**

6.2.1. The Application for Spectrum Supportability must be provided as a PDF file.

6.2.2. **Soft Copy format submission size below 7MB** – The Application for Spectrum Supportability may be submitted via email as follows:

6.2.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.2.2.2. Subject Field: DRPS-ILS-201 – Application for Spectrum Supportability – [Rev #] – [Date of Issue]

6.2.3. **Soft Copy format submission size at or above 7MB** - The Application for Spectrum Supportability file must be submitted on CD or DVD media and be labelled as follows:

6.2.3.1. Digital Radiography Panel System

6.2.3.2. Application for Spectrum Supportability

6.2.3.3. DRPS-ILS-201;

6.2.3.4. The Revision number, and

6.2.3.5. The date of issue.

Application for Spectrum Supportability **Demande d'octroi de Fréquences**	Date	Page
To: À:	From (Office making request): De (Bureau qui présente la demande):	

1. Equipment nomenclature and/or model number
   Désignation du matériel et numéro de modèle

2. Status of supportability request (check one)
   Centre de demande d'octroi (cochez une seule case)

Experimental research or exploratory development Recherche expérimentale ou développement préliminaire	Advanced or engineering development Développement avancé ou ingénierie	Operational Utilisation opérationnelle
☐	☐	X

1. Equipment Usage – Utilisation du matériel

3. **Functional and purpose**: TRANSMISSION OF CONTROL SIGNALS AND X-RAY IMAGES BETWEEN THE DIGITAL RADIOGRAPHY PANEL AND THE CONTROL STATION
   Fonction et but:

4. **Method of operation:** OPERATOR PLACES A SOURCE AND PLATE ON EITHER SIDE OF A TARGET. THEY THEN REMOTELY TAKE X-RAY IMAGE WHICH IS TRANSFERRED TO CONTROL STATION WIRELESSLY.
   Mode de fonctionnement:

5. **Extent of use:** MISSION DURATION IS ONE (1) HOUR
   Étendue de l'utilisation :

6. **Operational environment:** OPERATION IN ENVIRONMENTAL CONDITIONS, LOCATIONS CAN BE IN URBAN AREAS AND ALL TERRAIN CONDITIONS IN THE FIELD
   Milieu d'utilisation:

7. **Geographical area of experimental research, or developmental evaluation:**. NO RESEARCH OR DEVELOPMENT
   Région géographique de la recherche expérimentale ou de l'évaluation du développement :

8. **Geographical area of operational use:** WORLDWIDE
   Région géographique de l'utilisation opérationnelle :

9 **Number of equipments in initial phase**: QUANTITY 60 WITH AN OPTION FOR 9 ADDITIONAL
   Nombre d'appareils pendant la phase initiale :

10. **Number of equipments planned for operational use:** QUANTITY 60 WITH AN OPTION FOR 9 ADDITIONAL
    Nombre d'appareils prévu pour l'utilisation opérationnelle :

11. **Number of these equipments operating simultaneously in the same electromagnetic environment**: MAX FOUR (4) PER LOCATION FOR TRAINING, ONE (1) IN OPERATIONS
    Nombre d'appareils fonctionnant simultanément dans le même milieu électromagnétique :

12. **Target date for the start and end of experimental or developmental evaluation**: N/A
    Date prévue pour le commencement et la fin de l'évaluation expérimentale ou de l'évaluation ou développement : N/A

13. **Target date for operational use**: 2022/2023
    Date prévue d'utilisation opérationnelle :

14. Previous DND 552 application number (for DIMTPS 5 use only)
    Numéro d'application de l'ancien formulaire MDN 552 (pour utilisation de DTPSGI 5 seulement)

Continued unchanged (see remarks) Reste en vigueur (voir les remarques)	Superseded Est remplacé	Related Demeure connexe
☐	☐	☐

None
☐ Aucun DND 552_____ CCEB CF 299_____

2. Transmitter Equipment Characteristics - Caractéristiques du matériel émetteur

1. Nomenclature, Manufacturer's Model No.:
Désignation, n° de modèle du fabricant:

2. Manufacturer's Name:
Nom du fabricant:

3. Transmitter Installation:
Installation émettrice:

4. Transmitter Type:
Type d'émetteur:

5. Tuning Range:
Gamme d'accord:

6. Method of Tuning:
Méthode d'accord:

7. RF Channelling Capability:
Répartition des voles RF:

8. Emission Designator(s):
Identificateur(s) d'émission:

9. Frequency Tolerance:
Tolérance de fréquence:

10. Filter Employed — Yes ☐ Oui — No ☐ Non
Filtre utilisé:

11. Spread Spectrum: — Yes ☐ Oui — No ☐ Non
Spectre étalé:

12. Emission Bandwidth
Largeur de bande de l'émission:
☐ Calculated / Calculée ☐ Measured / Mesurée
(a) –3 dB _____
(b) –20 dB _____
(c) –40 dB _____
(d) –60 dB _____
(e) OCCBW _____
Largeur de bande occupée

13. Maximum Bit Rate:
Débit binaire maximal:

14. Modulation Techniques and Coding:
Techniques de modulation et de codage:

15. Maximum Modulation Frequency:
Fréquence de modulation et de codage:

16. Pre-emphasis: — Yes ☐ Oui — No ☐ Non
Préaccentuation:

17. Deviation Ratio:
Rapport de déviation:

18. Pulse Characteristics:
Caractéristiques des impulsions:
(a) Rate – Fréq. de récurrence _____
(b) Width – Durée _____
(c) Rise Time – Temps de montée _____
(d) Fall Time – Temps de descente _____
(e) Comp Ratio – Rapport de comp. _____
Largeur de bande occupée

19. Power – Puissance:
(a) Mean – Moyenne _____
(b) PEP – En crête _____

20. Output Device:
Dispositif de sortie:

21. Harmonic Level:
Niveau des harmoniques:
(a) 2nd – 2e _____
(b) 3rd – 3e _____
(c) Other – Autres _____

22. Spurious Level:
Niveau du rayonnement non essentiel:

23. Industry Canada Type Approval No.:
N° d'homologation de l'industrie Canada:

24. Remarks:
Remarques:

3. Receiver Equipment Characteristics – Caractéristiques du matériel récepteur

1. Nomenclature, Manufacturer's Model No.:
Désignation, n° de modèle du fabricant:

2. Manufacturer's Name:
Nom du fabricant:

3. Receiver Installation:
Installation réceptrice:

4. Receiver Type:
Type de récepteur:

5. Tuning Range:
Gamme d'accord:

6. Method of Tuning:
Méthode d'accord:

7. RF Channelling Capability:
Répartition des voles RF:

8. Emission Designator(s):
Identificateur(s) d'émission:

9. Frequency Tolerance:
Tolérance de fréquence:

10. IF Selectivity: 1st 2nd 3rd
Sélectivité FI: 1ére 2e 3e
(a) –3 dB _____
(b) –20 dB _____
(c) –60 dB _____

12. RF Selectivity:
Sélectivité RF:
Calculated ☐ Measured ☐
Calculée ☐ Mesurée ☐
(a) –3 dB _____
(b) –20 dB _____
(c) –40 dB _____

12. IF Frequency:
Fréquence intermédiaire:
(a) 1st – 1ére _____
(b) 2nd – 2e _____
(c) 3rd – 3e _____

13. DIMTPS 5 use only:
Réservé au DTPSGI 5:

14. DIMTPS 5 use only:
Réservé au DTPSGI 5:

15. Oscillator Tuned: 1st 2nd 3rd
Oscillateur accordé: 1ére 2e 3e
(a) Above Tuned Frequency
Au-dessus de la fréq. d'accord ☐ ☐ ☐
(b) Below Tuned Frequency
Au-dessous de la fréq. d'accord ☐ ☐ ☐
(c) Either Above or Below the Frequency
Ou au-dessus ou au-dessous de la fréq. ☐ ☐ ☐

16. Maximum Bit Rate:
Débit binaire maximal:

17. Sensitivity:
Sensibilité:
(a) Sensitivity – Sensibilité _____ dBm
(b) Criteria – Critère _____
(c) Noise Fig – Facteur de bruit _____ dB
(d) Noise Temp – Temp. de bruit _____ Kelvin

18. De-emphasis: Yes ☐ No ☐
Désaccentuation: Oui ☐ Non ☐

19. Image Rejection:
Rejet de fréquence image:

20. Spurious Rejection:
Rejet des fréquences parasites:

21. Remarks:
Remarques:

22. Industry Canada Type Approval No.:
N° d'homologation de l'industrie Canada:

4. Antenna Equipment Characteristics – Caractéristiques du matériel d'antenne

1. Transmitting / Émission ☐ Receiving / Réception ☐ Transmitting and Receiving / Émission et réception ☐

2. Nomenclature, Manufacturer's Model No.:
Désignation, nº de modèle du fabricant:

3. Manufacturer's Name:
Nom du fabricant:

4. Frequency Range:
Gamme de fréquences:

5. Type:

6. Polarization – Polarisation:

7. Scan Characteristics:
Caractéristiques de balayage:
(a) Type_____
(b) Vertical Scan:
Balayage vertical:_____
(1) Max Elev
Angle de site max._____
(2) Min Elev
Angle de site min._____
(3) Scan Rate
Vitesse de balayage_____
(c) Horizontal Scan:
Balayage horizontal:_____
(1) Sector Scanned
Secteur balayé_____
(2) Scan Rate
Vitesse de balayage_____
(d) Sector Blanking / Effacement de secteur — Yes / Oui ☐ No / Non ☐

8. Gain:
(a) Main Beam
Faisceau principal_____
(b) 1st Major Side Lobe
1er lobe latéral important_____

9. Beamwidth :
Largeur du faisceau:
(a) Horizontal_____
(b) Vertical_____

10. Remarks:
Remarques:

Originator: Rédacteur:	Position:	Telephone Number: Numéro de téléphone:	Date:

INSTRUCTIONS FOR COMPLETING DND FORM 552

Classification. Enter classification and downgrading stamp. Indicate by check mark whether for Experimental Research or Exploratory Development, Advanced or Engineering Development, or Operational Utilization. The classification of the title should be appropriately indicated (e.g. (U), (C) or (S)). Classified information contained in the completed form should be indicated:

a) as a general statement in a Remarks block, such as, “The purpose, functions, operational use, frequency band, emission bandwidths, and power are classified X”;

b) by an enumeration of the applicable paragraphs and subparagraphs with their classifications; or

c) the classification may be marked alongside each entry on the form.

PART 1: EQUIPMENT USAGE

Part 1, Block 1: Nomenclature and Model Number

Provide nomenclature and equipment type (e.g. AN/FPS-16 Instrumentation Radar).

Part 1, Block 2: Status of Supportability Request

The supportability request will be for one of these purposes:

a. Experimental research or exploratory development:

(1) To test the feasibility of new techniques or concepts of natural phenomena and environment, and efforts towards solution of problems in the physical, behavioural and social sciences that have no direct military application; and

INSTRUCTIONS POUR REMPLIR LE FORMULAIRE DND 552

Classification. Entrer la classification et le déclassement. Indiquer par un crochet s’il s’agit d’une recherche expérimentale ou d’un développement préliminaire, d’un développement avancé ou d’ingénierie ou d’une utilisation opérationnelle. La classification du titre doit être indiquée convenablement (par exemple, (U), (C) ou (S)). L’information classifiée du formulaire rempli doit être signalée :

a) en tant qu’énoncé général dans le bloc Remarques tel que : « L’objet, les fonctions, l’utilisation opérationnelle, la bande de fréquences, les largeurs de bandes d’émission et la puissance sont classifiés X »;

b) par une énumération des paragraphes et des sous-paragraphes applicables accompagnés de leur classification; ou

c) la classification peut être indiquée à côté de chaque entrée du formulaire.

PARTIE 1 : UTILISATION DE L’ÉQUIPEMENT

Partie 1, Bloc 1 : Désignation et numéro de modèle

Inscrire la nomenclature et le type d’équipement (par exemple, radar d’instrumentation AN/FPS-16).

Partie 1, Bloc 2 : Statut de la demande de soutenabilité

La demande de soutenabilité de fréquences est faite pour l’un de ces buts :

a. Recherche expérimentale ou développement préliminaire :

(1) Pour vérifier la faisabilité de techniques ou de concepts nouveaux des phénomènes ou de l’environnement naturel et pour consacrer des efforts en vue de trouver une solution à des problèmes liés aux sciences physiques, comportementales et sociales qui n’ont aucune application militaire directe; et

(2) To test the feasibility of adapting conventional techniques to new purposes prior to projection into development planning. Includes all effort directed toward solution of specific military problems, short of major development projects.

b. Advanced or engineering development:

(1) to develop equipment which have moved into the development of hardware for experimental or operational test;

(2) to modify existing operational equipment for improved performance;

(3) to develop programs being engineered for service use, but have not yet been approved for production and service deployment; and

(4) to continue development of equipment/systems that have been approved for production and service use.

c. To operate and test equipment which have passed the development phase and are planned for operational use for:

(1) tactical and training purposes; or

(2) non-tactical purposes, such as for test range instrumentation.

Part 1, Block 3: Function and Purpose

Describe as specifically as possible the function and purpose to be performed. For example: guided missile control radar; troposcatter communications equipment; provides acquisition and tracking information; short range communications; telemetering for quality control.

Part 1, Block 4: Method of Operation

Describe the method of operation. For example: radar activates beacon transponder in missile with coded pulses; beacon provides missile track; radar

(2) Pour vérifier la faisabilité de l'adaptation de techniques conventionnelles aux nouveaux objectifs avant la projection dans la planification de développement. Cette démarche comprend tous les efforts consacrés à trouver la solution de problèmes militaires spécifiques, à l'exception des projets majeurs de développement.

b. Développement avancé ou d'ingénierie :

(1) pour développer de l'équipement qui s'est introduit dans le développement du matériel pour les essais expérimentaux ou opérationnels;

(2) pour modifier l'équipement opérationnel existant afin d'améliorer la performance;

(3) pour développer des programmes préparés pour l'usage militaire mais qui n'ont pas encore été approuvés pour la production et le déploiement militaire; et

(4) pour continuer le développement de systèmes et d'équipement qui ont été approuvés pour la production et l'usage militaire.

c. Pour exploiter et vérifier l'équipement qui a passé la phase du développement et dont l'utilisation opérationnelle est prévue pour :

(1) fins tactiques et de formation; ou

(2) fins non tactiques telle que l'instrumentation d'un champ de tir d'essai.

Partie 1, Bloc 3 : Fonction et but

Décrire aussi précisément que possible la fonction à exécuter et le but à atteindre. Par exemple : radar de contrôle de missile guidé; équipement de communication de diffusion troposphérique; fournit de l'information d'acquisition et de poursuite; communications à courte portée; télémétrie pour le contrôle de la qualité.

Partie 1, Bloc 4 : Mode de fonctionnement

Décrire le mode de fonctionnement. Par exemple : le radar actionne le transpondeur de la radiobalise dans le missile par des impulsions codées; la radiobalise détermine la piste de poursuite du missile; les radars transmettent aussi des signaux de

also transmits coded pulse command signals to missile beacon receiver for guidance.

Part 1, Block 5: Extent of Use

Describe operational extent of usage. For example: continuous or intermittent; expected duty cycle during mission; expected number of hours of operation per day or other appropriate time period. Indicate any conditions governing intermittent use. If appropriate, describe mission phase during which system operates.

Part 1, Block 6: Operational Environment

Give brief description of ultimate operational environment. For example: amphibious landing operations; defence of strategic target area; sea areas; field army. Provide any additional environmental factors pertinent to a meaningful assessment of electromagnetic compatibility, such as specific vehicle/platform types, expected mobility or other factors affecting the environment variability.

Part 1, Block 7: Geographical Area of Experimental Research or Developmental Evaluation

State the geographical area used for the experimental research or development.

Part 1, Block 8: Geographical Area of Operational Use

State the geographical area for potential use. Provide latitude and longitude of centre of operational area and radius of operation in kilometres.

Part 1, Block 9: Number of Equipment in Initial Phase

List number of equipment planned for experimental or developmental phase.

Part 1, Block 10: Number of Equipment Planned for Operational Use

List number of equipment planned for operational use.

commande codés au récepteur de la radiobalise du missile pour le guidage.

Partie 1, Bloc 5 : Étendue de l'utilisation

Décrire l'étendue opérationnelle de l'utilisation. Par exemple : continue ou intermittente; facteur d'utilisation prévu au cours de la mission; nombre d'heures d'exploitation prévues par jour ou autre période appropriée. Indiquer toute condition gouvernant l'utilisation intermittente. Décrire au besoin la phase de la mission durant laquelle le système fonctionne.

Partie 1, Bloc 6 : Milieu opérationnel

Donner une brève description du milieu opérationnel ultime. Par exemple : opérations amphibies de débarquement; défense d'une zone cible stratégique; zones maritimes; armée de campagne. Fournir tous les facteurs environnementaux supplémentaires pertinents à l'évaluation significative de la compatibilité électromagnétique, tels que les types particuliers de véhicules ou de plates-formes, la mobilité prévue ou les autres facteurs ayant un effet sur la variabilité de l'environnement.

Partie 1, Bloc 7 : Région géographique de la recherche expérimentale ou de l'évaluation du développement

Indiquer la région géographique qui sert à la recherche expérimentale ou au développement.

Partie 1, Bloc 8 : Région géographique de l'utilisation opérationnelle

Indiquer la région géographique de l'utilisation potentielle. Donner la latitude et la longitude du centre de la zone opérationnelle et le rayon d'opération en kilomètres.

Partie 1, Bloc 9 : Nombre d'appareils pendant la phase initiale

Indiquer le nombre d'appareils prévus pour la phase expérimentale ou de développement.

Partie 1, Bloc 10 : Nombre d'appareils prévus pour l'utilisation opérationnelle

Indiquer le nombre d'appareils prévus pour l'utilisation opérationnelle.

Part 1, Block 11: Number of These Equipment Operating Simultaneously in the Same Electromagnetic Environment

Indicate maximum number of these systems that will be operating simultaneously in the same environment. For example: three (3) missiles will be flown simultaneously in an operating area.

Part 1, Block 12: Target Date for the Start and End of Experimental or Developmental Evaluation

Indicate the dates on which it is expected that the experimental or developmental phase will start and finish.

Part 1, Block 13: Target Date for Operational Use

Indicate target date for operational use.

Part 1, Block 14: Previous DND 552 Application Number

For DIMTPS 5 use only.

Partie 1, Bloc 11 : Nombre d'appareils fonctionnant simultanément dans le même milieu électromagnétique

Indiquer le nombre maximal d'appareils fonctionnant simultanément dans le même environnement. Par exemple : trois (3) missiles voleront simultanément dans la zone opérationnelle.

Partie 1, Bloc 12 : Date prévue pour le commencement et la fin de l'évaluation expérimentale ou de l'évaluation du développement

Indiquer les dates auxquelles il est prévu que la phase expérimentale ou de développement débutera et se terminera.

Partie 1, Bloc 13 : Date prévue d'utilisation opérationnelle

Indiquer la date prévue pour l'utilisation opérationnelle.

Partie 1, Bloc 14 : Numéro de demande de l'ancien formulaire DND 552

À l'usage exclusif du DTPSGI 5.

PART 2: TRANSMITTER EQUIPMENT CHARACTERISTICS

Part 2, Block 1: Nomenclature, Manufacturer's Model No.

Enter the Government assigned alphanumeric equipment designation. If not available, enter the manufacturer's model number (e.g. MIT 502), and indicate Manufacturer's Name (Part 2, block 2). If this too is not available, enter a short descriptive title (e.g. ATS-6 Telemetry Transmitter).

Part 2, Block 2: Manufacturer's Name

Enter the manufacturer's name, if available. If a manufacturer's model number is listed in Nomenclature (Part 2, block 1), this block must be completed.

Part 2, Block 3: Transmitter Installation

List specific types of vehicles, ships, planes or buildings, etc., where the transmitters will be installed.

Part 2, Block 4: Transmitter Type

Enter the generic name of the transmitter (e.g. Frequency Scan, Scan While Track Radar, Monopulse Tracker, AM or PM Communications). In addition, for radar enter the radar type (e.g. Non-FM Pulse, FM Pulse, Frequency Hopping, CW or FM-CW).

Part 2, Block 5: Tuning Range

Enter the frequency range through which the transmitter is capable of being tuned (e.g. 225 to 400 MHz). For equipment designed to operate only at a single frequency, enter that frequency. Include units (e.g. kHz, MHz or GHz).

Part 2, Block 6: Method of Tuning

Enter the method of tuning (e.g. crystal, synthesizer or cavity). If the equipment is not readily tuneable in the field, indicate in Remarks (Part 2, block 24) the complexity of tuning. Include complexity factors such as skill levels involved, major assemblies

PARTIE 2 : CARACTÉRISTIQUES DE L'ÉQUIPEMENT ÉMETTEUR

Partie 2, Bloc 1 : Désignation, n° de modèle du fabricant

Indiquer la désignation alphanumérique de l'équipement désigné par le gouvernement. S'il n'est pas disponible, indiquer le numéro du modèle du fabricant (par exemple, MIT 502) et indiquer le nom du fabricant (partie 2, bloc 2). Si ces renseignements ne sont également pas disponibles, indiquer un court titre descriptif (par exemple, émetteur de télémétrie ATS-6).

Partie 2, Bloc 2 : Nom du fabricant

Indiquer le nom du fabricant s'il est disponible. Si le numéro du modèle du fabricant est indiqué à la partie 2, bloc 1, ce bloc doit être rempli.

Partie 2, Bloc 3 : Installation émettrice

Indiquer les types spécifiques de véhicules, de navires, d'aéronefs ou de bâtiments, etc., où les émetteurs seront installés.

Partie 2, Bloc 4 : Type d'émetteur

Indiquer le nom générique de l'émetteur (par exemple, balayage de fréquences, radar de poursuite sur informations discontinues, traqueur monopulse, communications AM ou PM). De plus, pour les radars, indiquer le type du radar (par exemple, à impulsions autres que FM, à impulsions FM, à sauts de fréquence, à ondes continues ou à FM-CW).

Partie 2, Bloc 5 : Gamme d'accord

Indiquer la gamme de fréquences sur laquelle l'émetteur peut être accordé (par exemple, de 225 à 400 MHz). Indiquer la fréquence dans le cas de l'équipement conçu pour fonctionner seulement à une seule fréquence. Indiquer les unités (par exemple, kHz, MHz ou GHz).

Partie 2, Bloc 6 : Méthode d'accord

Indiquer la méthode d'accord (par exemple, quartz, synthétiseur ou cavité). Si l'équipement ne peut être accordé facilement sur le terrain, indiquer dans le bloc Remarques (partie 2, bloc 24) la complexité de l'accord. Inclure les facteurs de

involved, time required, and location (factory or depot) where equipment is to be tuned.

Part 2, Block 7: RF Channelling Capability

Describe the RF channelling capability:

a. for uniformly spaced channels, enter the centre frequency of the first channel and channel spacing (e.g. first channel 406 MHz, 100 kHz increments);

b. for continuous tuning, enter the lowest frequency and the word “continuous”; and

c. for others, such as SSB or cases where channel selection is under software control, enter a detailed description in Remarks (Part 2 block 24, e.g. degraded channels, internal hardwiring limitations or lockout capability for frequency hopping systems).

Part 2, Block 8: Emission Designators

Enter the emission designators, including the necessary bandwidth, for each designator, in accordance with Appendix D3 (e.g. 16K0F3E). For systems with a frequency hopping mode as well as a non-hopping mode, enter the emission designators for each mode. Identify each mode as hopping or non-hopping.

Part 2, Block 9: Frequency Tolerance

Enter the frequency tolerance (i.e. the maximum departure of a transmitter from its assigned frequency after normal warm-up time). Indicate the units in parts per million (ppm) for all emission types except single sideband, which must be indicated in Hertz (Hz).

Part 2, Block 10: Filter Employed

Check the appropriate box.

Part 2, Block 11: Spread Spectrum

complexité tels que les niveaux de compétence nécessaires, les ensembles principaux nécessaires, le temps nécessaire et l’emplacement (usine ou dépôt) où l’équipement doit être accordé.

Partie 2, Bloc 7 : Répartition des canaux RF

Décrire la répartition des canaux RF :

a. pour indiquer la fréquence centrale du premier canal et l’espacement des canaux (par exemple, premier canal à 406 MHz avec incréments de 100 kHz) dans le cas des canaux uniformément espacés;

b. pour indiquer la plus basse fréquence et le mot « continu » dans le cas de l’accord continu; et

c. pour les autres, tels que BLU ou les cas où la sélection du canal est commandée par logiciel, entrer une description détaillée (par exemple, canaux dégradés, limitations internes de câblage ou capacité de verrouillage pour les systèmes à sauts de fréquence) dans le bloc Remarques (partie 2, bloc 24).

Partie 2, Bloc 8 : Identificateur(s) d’émission

Indiquer le ou les identificateurs d’émission, y compris la largeur de bande nécessaire pour chaque identificateur conformément au contenu de l’appendice D3 (par exemple, 16K0F3E). Entrer les identificateurs d’émission de chaque mode dans le cas des systèmes avec un mode à sauts de fréquence ainsi que ceux avec un mode sans sauts de fréquence. Identifier chaque mode comme étant à sauts ou sans sauts.

Partie 2, Bloc 9 : Tolérance de fréquence

Indiquer la tolérance de fréquence (c’est-à-dire, l’écart maximal d’un émetteur de sa fréquence assignée après le temps de réchauffement normal). Indiquer les unités en parties par million (ppm) pour tous les types d’émissions sauf la bande latérale unique, qui doit être indiquée en hertz (Hz).

Partie 2, Bloc 10 : Filtre utilisé

Cocher la case appropriée.

Partie 2, Bloc 11 : Spectre étalé

Check the appropriate box. If “Yes”, refer to instructions for Modulation (Part 2, block 14).

Part 2, Block 12: Emission Bandwidth

Enter the emission bandwidths for which the transmitter is designed at the -3, -20 and -60 dB levels and the occupied bandwidth. For pulse radar transmitters the bandwidth at -40 dB must also be entered. The emission bandwidth is defined as the bandwidth appearing at the antenna terminals and includes any significant attenuation contributed by filtering in the output circuit or transmission lines. Values of emission bandwidth specified should be indicated as calculated or measured, by checking the appropriate box. If calculated, the methods used must be in accordance with Industry Canada TRC 43, which is available on the Internet. Indicate units used (e.g. Hz, kHz or MHz). Note that the occupied bandwidth (block 12[e]) is defined as the width of the frequency bandwidth such that, below its lower and above its upper limits, the mean power radiated is each equal to 0.5% of the total mean power radiated.

Part 2, Block 13: Maximum Bit Rate

Enter the maximum information bit rate for digital equipment, in bits per second (bps). If spread spectrum is used, enter the bit rate after encoding.

Part 2, Block 14: Modulation Techniques and Coding

Describe in detail the modulation and coding techniques employed. For complex modulation schemes, such as direct sequence spread spectrum, frequency hopping or frequency agile, provide information relating to the hop rate, processing gain, clock rate, pre-defined hop sets and frequencies, minimum required number of frequencies per hop set, notching capability, etc. If too lengthy, use Remarks (Part 2, block 24).

Cocher la case appropriée. Se reporter aux instructions pour remplir le bloc Modulation (partie 2, bloc 14) si la case « Oui » est cochée.

Partie 2, Bloc 12 : Largeur de bande de l’émission

Indiquer les largeurs de bandes d’émissions pour lesquelles l’émetteur est conçu aux niveaux de -3, -20 et -60 dB et la largeur de bande occupée. Pour les émetteurs radars à impulsions, la largeur de bande de -40 dB doit aussi être indiquée. La largeur de bande d’émission est définie comme étant la largeur de bande apparaissant aux bornes de l’antenne et comprend toute atténuation concrète contribuée par le filtrage des circuits de sortie ou des lignes de transmission. Les valeurs des largeurs de bandes d’émission spécifiées doivent être indiquées telles qu’elles sont calculées ou mesurées en cochant la case appropriée. Si les valeurs sont calculées, les méthodes utilisées doivent être conformes aux indications de la Circulaire de la réglementation des télécommunications 43 (CRT 43) d’Industrie Canada disponibles sur l’Internet. Indiquer les unités utilisées (par exemple, Hz, kHz ou MHz). Remarquer que la largeur de bande occupée (bloc 12[e]) est définie comme étant la largeur de la bande de fréquence telle que, sous sa limite inférieure et au-dessus de sa limite supérieure, la puissance moyenne rayonnée de chacune est égale à 0.5 % de la puissance moyenne rayonnée totale.

Partie 2, Bloc 13 : Débit binaire maximal

Indiquer le débit binaire maximal en bits par seconde (bps) pour l’équipement numérique. Indiquer le débit binaire après le codage si l’étalement du spectre est utilisé.

Partie 2, Bloc 14 : Techniques de modulation et de codage

Décrire en détail les techniques de modulation et de codage utilisées. Dans le cas des formules complexes de modulation, telles que l’étalement du spectre en ordre direct, à sauts de fréquence ou à agilité de fréquence, fournir de l’information se rapportant aux taux de sauts, aux gains de traitement, à la fréquence d’horloge, aux ensembles de sauts et de fréquences prédéfinis, au nombre minimal nécessaire de fréquences par ensemble de sauts, à la capacité d’absorption, etc. Utiliser le bloc Remarques (partie 2, bloc 24) si le contenu est trop long.

Part 2, Block 15: Maximum Modulation Frequency

Enter the maximum modulation or baseband frequency for a frequency or phase-modulated transmitter. This is assumed to be the frequency at the -3 dB point on the high frequency side of the modulator response curve. Indicate the units (e.g. Hz, kHz or MHz).

Part 2, Block 16: Pre-emphasis

For frequency or phase-modulated transmitters, check the appropriate box to indicate whether pre-emphasis is available.

Part 2, Block 17: Deviation Ratio

For frequency or phase modulated transmitters, enter the deviation ratio, computed as follows:

$$\text{Deviation Ratio} = \frac{\text{Maximum Frequency Deviation}}{\text{Maximum Modulation Frequency}}$$

Part 2, Block 18: Pulse Characteristics

For pulse modulated transmitters:

a. enter the pulse repetition rate, in pulses per second (pps);

b. enter the pulse width at the half voltage levels, in microseconds (µsec);

c. enter the pulse rise time, in microseconds (µsec). This is the time required for the leading edge of the voltage pulse to rise from 10% to 90% of its peak amplitude;

d. enter the pulse fall time, in microseconds (µsec). This is the time required for the trailing edge of the voltage pulse to fall from 90% to 10% of its peak amplitude; and

e. enter the maximum pulse compression ratio, if applicable.

For coded pulse waveforms refer to instructions for Modulation (Part 2, block 14).

Partie 2, Bloc 15 : Fréquence maximale de modulation

Indiquer la fréquence maximale de modulation ou de bande de base pour un émetteur modulé en fréquence ou en phase. Il est tenu pour acquis qu'il s'agit de la fréquence au point de -3 dB du côté haute fréquence de la courbe de réponse du modulateur. Indiquer les unités (par exemple, Hz, kHz ou MHz).

Partie 2, Bloc 16 : Préaccentuation

Cocher la case appropriée pour indiquer si la préaccentuation est disponible dans le cas des émetteurs modulés en fréquence ou en phase.

Partie 2, Bloc 17 : Rapport de déviation

Indiquer le rapport de déviation calculé de la façon suivante dans le cas des émetteurs modulés en fréquence ou en phase :

$$\text{Rapport de déviation} = \frac{\text{Déviation maximale de la fréquence}}{\text{Fréquence maximale de modulation}}$$

Partie 2, Bloc 18 : Caractéristiques des impulsions

Pour les émetteurs modulés par impulsions :

a. indiquer la fréquence de récurrence d'impulsions en impulsions par seconde (pps);

b. indiquer la largeur d'impulsions aux niveaux de demi-tension en microsecondes (µsec);

c. indiquer le temps de montée de l'impulsion en microsecondes (µsec); C'est le temps nécessaire au flanc avant de l'impulsion de tension pour monter de 10 % à 90 % de son amplitude de crête;

d. indiquer le temps de descente de l'impulsion en microsecondes (µsec); C'est le temps nécessaire au flanc arrière de l'impulsion de tension pour descendre de 90% à 10% de son amplitude de crête; et

e. indiquer le rapport maximal de compression de l'impulsion s'il s'applique.

Se reporter aux instructions pour remplir le bloc Modulation (partie 2, bloc 14) s'il s'agit de formes d'ondes d'impulsions codées.

Part 2, Block 19: Power

Enter the mean power delivered to the antenna terminals for all AM and FM emissions, or the peak envelope power (PEP) for all other classes of emissions. If there are any unique situations, such as interrupted CW, provide details in Remarks (Part 2, block 24). Indicate the units (e.g. W or kW).

Part 2, Block 20: Output Device

Enter a description of the device used in the transmitter output stage (e.g. ceramic diode, reflex klystron, transistor or TWT).

Part 2, Block 21: Harmonic Level

Enter the harmonic level of the second and third harmonics, in dB, relative to the fundamental. Enter in "other" (block 21[c]) the relative level, in dB, of the highest power harmonic above the third.

Part 2, Block 22: Spurious Level

Enter the maximum value of spurious emission, in dB, relative to the fundamental, which occurs outside the -60 dB point on the transmitter fundamental emission spectrum (Part 2, block 12) and does not occur on a harmonic of the fundamental frequency. Indicate, in kHz or MHz, the location of the spurious emission from the fundamental frequency.

Part 2, Block 23: Industry Canada Type Approval No.

Enter the Industry Canada type approval number, if applicable.

Part 2, Block 24: Remarks

Self-explanatory. Use additional pages if necessary.

Partie 2, Bloc 19 : Puissance

Indiquer la puissance moyenne alimentée aux bornes de l'antenne pour toutes les émissions AM et FM, ou la puissance en crête de modulation pour toutes les autres classes d'émissions. Donner les détails dans le bloc Remarques (partie 2, bloc 24) s'il y a des situations uniques telles que des CW interrompues. Indiquer les unités (par exemple, W ou kW).

Partie 2, Bloc 20 : Dispositif de sortie

Entrer une description du dispositif utilisé à l'étage de sortie de l'émetteur (par exemple, diode céramique, klystron réflex, transistor ou TOP).

Partie 2, Bloc 21 : Niveau des harmoniques

Indiquer, en dB, le niveau des harmoniques de la deuxième et de la troisième harmonique par rapport à la fréquence fondamentale. Indiquer sous « Autre » (bloc 21[c]) le niveau de puissance relatif, en dB, des plus hautes harmoniques au-dessus de la troisième.

Partie 2, Bloc 22 : Niveau du rayonnement non essentiel

Indiquer la valeur maximale du rayonnement non essentiel, en dB, relativement à la fréquence fondamentale, qui se produit à l'extérieur du point de -60 dB sur le spectre d'émission fondamentale de l'émetteur (partie 2, bloc 12) et qui ne se produit pas sur une harmonique de la fréquence fondamentale. Indiquer, en kHz ou en MHz, l'emplacement du rayonnement non essentiel de la fréquence fondamentale.

Partie 2, Bloc 23 : N° du type approuvé d'Industrie Canada

Indiquer, s'il y a lieu, le numéro du type approuvé d'Industrie Canada.

Partie 2, Bloc 24 : Remarques

Suffisamment explicite. Utiliser au besoin des pages supplémentaires.

PART 3: RECEIVER EQUIPMENT CHARACTERISTICS

Part 3, Block 1: Nomenclature, Manufacturer's Model No.

Enter the Government assigned alphanumeric equipment designation. If not available, enter the manufacturer's model number (e.g. MIT 502) and complete Manufacturer's Name (Part 3, block 2). If this too is not available, enter a short descriptive title (e.g. GPS Receiver). A separate receiver submission is required for each receiver in a complex system (e.g. radar ECCM receivers).

Part 3, Block 2: Manufacturer's Name

Enter the manufacturer's name, if available. If a manufacturer's model number is listed in Nomenclature (Part 3, block 1), this block must be completed.

Part 3, Block 3: Receiver Installation

List specific types of vehicles, ships, planes or buildings, etc., where the receivers will be installed.

Part 3, Block 4: Receiver Type

Enter the generic class (e.g. Dual Conversion Superheterodyne or Homodyne).

Part 3, Block 5: Tuning Range

Enter the frequency range through which the receiver is capable of being tuned (e.g. 225 to 400 MHz). For equipment designed to operate only at a single frequency, enter that frequency. Include units (e.g. kHz, MHz or GHz).

Part 3, Block 6: Method of Tuning

Enter the method of tuning (e.g. crystal, synthesizer or cavity). If the equipment is not readily tuneable in the field, indicate in Remarks (Part 3, block 21) the complexity of tuning. Include complexity factors such as skill levels involved, major assemblies involved, time required, and location (factory or depot) where equipment is to be tuned.

PARTIE 3 : CARACTÉRISTIQUES DE L'ÉQUIPEMENT RÉCEPTEUR

Partie 3, Bloc 1 : Désignation, n° de modèle du fabricant

Indiquer la désignation alphanumérique de l'équipement désigné par le gouvernement. S'il n'est pas disponible, indiquer le numéro du modèle du fabricant (par exemple, MIT 502) et indiquer le nom du fabricant (partie 3, bloc 2). Si ces renseignements ne sont également pas disponibles, indiquer un court titre descriptif (par exemple, récepteur GPS). Une soumission de récepteur distincte est nécessaire pour chaque récepteur d'un système complexe (par exemple, récepteurs radars de CCME).

Partie 3, Bloc 2 : Nom du fabricant

Indiquer le nom du fabricant s'il est disponible. Si le numéro du modèle du fabricant est indiqué à la partie 3, bloc 1, ce bloc doit être rempli.

Partie 3, Bloc 3 : Installation réceptrice

Indiquer les types spécifiques de véhicules, de navires, d'aéronefs ou de bâtiments, etc., où les récepteurs seront installés.

Partie 3, Bloc 4 : Type de récepteur

Indiquer la classe générique (par exemple, superhétérodyne à double changement de fréquence ou homodyne).

Partie 3, Bloc 5 : Gamme d'accord

Indiquer la gamme de fréquences sur laquelle le récepteur peut être accordé (par exemple, de 225 à 400 MHz). Indiquer la fréquence dans le cas de l'équipement conçu pour fonctionner seulement à une seule fréquence. Indiquer les unités (par exemple, kHz, MHz ou GHz).

Partie 3, Bloc 6 : Méthode d'accord

Indiquer la méthode d'accord (par exemple, quartz, synthétiseur ou cavité). Si l'équipement ne peut être accordé facilement sur le terrain, indiquer dans le bloc Remarques (partie 3, bloc 21) la complexité de l'accord. Inclure les facteurs de complexité tels que les niveaux de compétence nécessaires, les ensembles principaux nécessaires, le

Part 3, Block 7: RF Channelling Capability

Describe the RF channelling capability:

a. for uniformly spaced channels, enter the centre frequency of the first channel and the channel spacing (e.g. first channel 406 MHz, 100 kHz increments);

b. for continuous tuning, enter the lowest frequency and the word “continuous”; and

c. for others, including cases where channel selection is under software control, enter a detailed description in Remarks (Part 3, block 21).

Part 3, Block 8: Emission Designators

Enter the emission designators, including the necessary bandwidth, for each designator, in accordance with Appendix D3 to this publication (e.g. 16K0F3E). For systems with a frequency hopping mode as well as a non-hopping mode, enter the emission designators for each mode. Identify each mode as hopping or non-hopping.

Part 3, Block 9: Frequency Tolerance

Enter the frequency tolerance (i.e., the maximum departure of a receiver from its assigned frequency after normal warm-up). Indicate the magnitude, in ppm, for all emission types except single sideband, which must be indicated in Hertz (Hz).

Part 3, Block 10: IF Selectivity

Enter the bandwidth for each IF stage at the -3, -20 and -60 dB levels. Indicate units (e.g. kHz or MHz).

Part 3, Block 11: RF Selectivity

Enter the bandwidth at the -3, -20 and -60 dB levels. The RF bandwidth includes any significant attenuation contributed by filtering in the input circuit

temps nécessaire et l’emplacement (usine ou dépôt) où l’équipement doit être accordé.

Partie 3, Bloc 7 : Répartition des canaux RF

Décrire la répartition des canaux RF :

a. pour indiquer la fréquence centrale du premier canal et l’espacement des canaux (par exemple, premier canal à 406 MHz avec incréments de 100 kHz) dans le cas des canaux uniformément espacés;

b. pour indiquer la plus basse fréquence et le mot « continu » dans le cas de l’accord continu;

c. pour les autres, y compris les cas où la sélection du canal est commandée par logiciel, entrer une description détaillée dans le bloc Remarques (partie 3, bloc 21).

Partie 3, Bloc 8 : Identificateur(s) d’émission

Indiquer le ou les identificateurs d’émission, y compris la largeur de bande nécessaire pour chaque identificateur conformément au contenu de l’appendice D3 de la présente publication (par exemple, 16K0F3E). Entrer les identificateurs d’émission de chaque mode dans le cas des systèmes avec un mode à sauts de fréquence ainsi que ceux avec un mode sans sauts de fréquence. Identifier chaque mode comme étant à sauts ou sans saut.

Partie 3, Bloc 9 : Tolérance de fréquence

Indiquer la tolérance de fréquence (c’est-à-dire, l’écart maximal d’un récepteur de sa fréquence assignée après le temps de réchauffement normal). Indiquer la magnitude en ppm pour tous les types d’émissions sauf la bande latérale unique, qui doit être indiquée en hertz (Hz).

Partie 3, Bloc 10 : Sélectivité FI

Indiquer la largeur de bande pour chaque étage FI aux niveaux de -3, -20 et -60 dB. Indiquer les unités (par exemple, kHz ou MHz).

Partie 3, Bloc 11 : Sélectivité RF

Indiquer la largeur de bande aux niveaux de -3, -20 et -60 dB. La largeur de bande RF comprend toute atténuation concrète contribuée par le filtrage dans le

or transmission line. Values of RF bandwidth specified should be indicated as calculated or measured by checking the appropriate box. Indicate units (e.g. kHz or MHz). Enter the preselection type (e.g. tuneable cavity).

Part 3, Block 12: IF Frequency

Enter the tuned frequency of the first, second and third IF stages. Indicate units (e.g. kHz or MHz).

Part 3, Block 13: DIMTPS 5 Use Only

Intentionally left blank to match the US form.

Part 3, Block 14: DIMTPS 5 Use Only

Intentionally left blank to match the US form.

Part 3, Block 15: Oscillator Tuned

Check the appropriate box to indicate the location of the first, second and third oscillator frequencies with respect to the associated mixer input signal.

Part 3, Block 16: Maximum Bit Rate

Where applicable, enter the maximum bit rate (bps) that can be used. If spread spectrum is used, enter the bit rate after decoding. Describe any error detecting/correcting codes under Remarks (Part 3, block 21).

Part 3, Block 17: Sensitivity

Complete as follows:

a. enter the sensitivity in dBm;

b. specify criteria used (e.g. 12 dB SINAD, where SINAD is (Signal + Noise + Distortion) /(Noise + Distortion);

c. if the receiver is used with terrestrial systems, enter the receiver noise figure in dB; and

d. if the receiver is used with space or satellite earth stations, enter the receiver noise figure

circuit d'entrée ou dans la ligne de transmission. Les valeurs de la largeur de bandes RF spécifiées doivent être indiquées telles qu'elles sont calculées ou mesurées en cochant la case appropriée. Indiquer les unités (par exemple, kHz ou MHz). Indiquer le type de présélection (par exemple, cavité accordable).

Partie 3, Bloc 12 : Fréquence FI

Indiquer la fréquence accordée du premier, du deuxième et du troisième étage FI. Indiquer les unités (par exemple, kHz ou MHz).

Partie 3, Bloc 13 : À l'usage exclusif du DTPSGI 5

Bloc laissé intentionnellement vide pour s'apparier au formulaire américain.

Partie 3, Bloc 14 : À l'usage exclusif du DTPSGI 5

Bloc laissé intentionnellement vide pour s'apparier au formulaire américain.

Partie 3, Bloc 15 : Oscillateur accordé

Cocher la case appropriée pour indiquer la valeur de la première, de la deuxième et de la troisième fréquence de l'oscillateur par rapport au signal d'entrée du mélangeur connexe.

Partie 3, Bloc 16 : Débit binaire maximal

S'il y a lieu, indiquer le débit binaire maximal (bps) qui peut être utilisé. Indiquer le débit binaire après le décodage si le spectre étalé est utilisé. Décrire tout code de détection ou de correction sous Remarques (partie 3, bloc 21).

Partie 3, Bloc 17 : Sensibilité

Remplir de la façon suivante :

a. indiquer la sensibilité en dBm;

b. spécifier le critère utilisé (par exemple, SINAD de 12 dB, SINAD étant (signal + bruit + distorsion)/(bruit + distorsion);

c. indiquer la valeur de bruit du récepteur en dB si le récepteur est utilisé avec les systèmes terrestres; et

d. indiquer la valeur de bruit du récepteur en degrés Kelvin si le récepteur est utilisé avec

in Kelvin.

Part 3, Block 18: De-emphasis

For frequency or phase-modulated receivers, indicate whether de-emphasis is available.

Part 3, Block 19: Image Rejection

Enter the image rejection in dB. Image ejection is the ratio of the image frequency signal level required to produce a specified output to the desired signal level required to produce the same output.

Part 3, Block 20: Spurious Frequency Rejection

Enter the spurious frequency rejection in dB. Enter the single level of spurious frequency rejection that the receiver meets or exceeds at all frequencies outside the -60 dB IF bandwidth. Spurious frequency rejection is the ratio of a particular out-of-band frequency signal level required to produce a specified output, to the desired signal level required to produce the same output.

Part 3, Block 21: Remarks

Self-explanatory. Use additional pages if necessary.

Part 3, Block 22: Industry Canada Type Approval No.

Enter the Industry Canada type approval number, if applicable.

les stations satellites spatiales ou terrestres.

Partie 3, Bloc 18 : Désaccentuation

Cocher la case appropriée pour indiquer si la désaccentuation est disponible dans le cas des récepteurs modulés en fréquence ou en phase.

Partie 3, Bloc 19 : Rejet de fréquence image

Indiquer le rejet de fréquence image en dB. Le rejet de fréquence image est le rapport du niveau signal de fréquence image nécessaire pour produire une sortie spécifiée au niveau désiré de signal nécessaire pour produire la même sortie.

Partie 3, Bloc 20 : Rejet des fréquences non essentielles

Indiquer le rejet des fréquences non essentielles en dB. Indiquer le niveau unique du rejet des fréquences non essentielles que le récepteur rencontre ou dépasse à toutes les fréquences à l'extérieur de la largeur de bande FI de -60 dB. Le rejet de fréquences non essentielles est le rapport d'un niveau de signal de fréquence hors bande nécessaire pour produire une sortie spécifiée au niveau de signal désiré nécessaire pour produire la même sortie.

Partie 3, Bloc 21 : Remarques

Suffisamment explicite. Utiliser au besoin des pages supplémentaires.

Partie 3, Bloc 22 : N° du type approuvé d'Industrie Canada

Indiquer, s'il y a lieu, le numéro du type approuvé d'Industrie Canada.

PART 4: ANTENNA EQUIPMENT CHARACTERISTICS

Part 4, Block 1: Antenna Type

Check the appropriate box to indicate the type of antenna. For multiantenna systems use a separate Part 4 form for each antenna.

Part 4, Block 2: Nomenclature, Manufacturer's Model No.

Enter the Government assigned alphanumeric equipment designation. If not available, enter the manufacturer's model number (e.g. DS6558) and indicate Manufacturer's Name (Part 4, block 3). If this too is not available, enter a short descriptive title (e.g. ATS-6 Telemetry Antenna).

Part 4, Block 3: Manufacturer's Name

Enter the manufacturer's name, if available. If a manufacturer's model number is given in Nomenclature (Part 4, block 2), this block must be completed.

Part 4, Block 4: Frequency Range

Enter the range of frequencies for which the antenna is designed. Indicate units (e.g. kHz or MHz).

Part 4, Block 5: Type

Enter the generic name or describe the general technical features (e.g. Horizontal, Log Periodic, Cassegrain with Polarization Twisting, Whip, Phased Array or Conformal Array). To the extent possible, use the standard antenna configuration given in Appendix D1, Figure D1-1.

Part 4, Block 6: Polarization

Enter the polarization. If circular, indicate whether it is left or right handed.

Part 4, Block 7: Scan Characteristics

Complete as follows:

PARTIE 4 : CARACTÉRISTIQUES DE L'ÉQUIPEMENT D'ANTENNE

Partie 4, Bloc 1 : Type d'antenne

Cocher la case appropriée pour indiquer le type d'antenne. Utiliser un formulaire distinct pour chaque antenne dans le cas des systèmes à plusieurs antennes.

Partie 4, Bloc 2 : Désignation, n° de modèle du fabricant

Indiquer la désignation alphanumérique de l'équipement désigné par le gouvernement. S'il n'est pas disponible, indiquer le numéro du modèle du fabricant (par exemple, DS6558) et indiquer le nom du fabricant (partie 4, bloc 3). Si ces renseignements ne sont pas non plus disponibles, indiquer un court titre descriptif (par exemple, antenne de télémétrie ATS-6).

Partie 4, Bloc 3 : Nom du fabricant

Indiquer le nom du fabricant s'il est disponible. Si le numéro du modèle du fabricant est indiqué à la partie 4, bloc 2, ce bloc doit être rempli.

Partie 4, Bloc 4 : Gamme de fréquences

Indiquer la gamme de fréquences pour laquelle l'antenne est conçue. Indiquer les unités (par exemple, kHz ou MHz).

Partie 4, Bloc 5 : Type

Indiquer le nom générique ou décrire les caractéristiques techniques générales (par exemple, horizontale, log-périodique, Cassegrain avec torsion de polarisation, fouet, réseau à commande de phase ou réseau conforme). Utiliser, dans la mesure du possible, les configurations normalisées d'antenne indiquées à l'appendice D1, figure D1-1.

Partie 4, Bloc 6 : Polarisation

Indiquer la polarisation. Si elle est circulaire, indiquer si elle est orientée à gauche ou à droite.

Partie 4, Bloc 7 : Caractéristiques de balayage

Remplir de la façon suivante :

a. If the antenna scans, enter the type of scanning (e.g. vertical, horizontal, vertical and horizontal);

b. Vertical Scan:

(1) enter the maximum elevation angle, in degrees (positive or negative, referenced to the horizontal), that the antenna can scan;

(2) enter the minimum elevation angle, in degrees (positive or negative, referenced to the horizontal), that the antenna can scan; and

(3) enter the vertical scanning rate, in scans per minute.

c. Horizontal Scan:

(1) enter the angular scanning range, in degrees, of the horizontal sector scanned; and

(2) enter the horizontal scan rate, in scans per minute.

d. Indicate if antenna is capable of being sector blanked. If “yes”, enter details in Remarks (Part 4, block 10b.).

Part 4, Block 8: Gain

If frequency is between 27.5 MHz and 890 MHz, indicate gain of radiator relative to half wave dipole (dB). If frequency is below 27.5 MHz or above 890 MHz, indicate gain of radiator relative to an isotropic radiator (dBi).

a. enter the maximum gain, in dB; and

b. enter the nominal gain of the first major side lobe, in dB, and the angular displacement from the main beam, in degrees.

Part 4, Block 9: Beamwidth

Enter the 3 dB beam width in degrees.

a. Indiquer le type de balayage (par exemple, vertical, horizontal, vertical et horizontal) si l’antenne balaye;

b. Balayage vertical :

(1) indiquer l’angle de site maximal en degrés (positif ou négatif, par rapport à l’horizontal) auquel l’antenne peut balayer;

(2) indiquer l’angle minimal d’élévation en degrés (positif ou négatif, par rapport à l’horizontal) auquel l’antenne peut balayer; et

(3) indiquer la cadence de balayage vertical en balayages par minute.

c. Balayage horizontal :

(1) indiquer la portée angulaire de balayage, en degrés, du secteur horizontal balayé; et

(2) indiquer la cadence de balayage horizontal en balayages par minute.

d. Indiquer si l’antenne est dotée de l’effacement de secteur. Entrer les détails sous Remarques (partie 4, bloc 10b.) si la case « Oui » est cochée.

Partie 4, Bloc 8 : Gain

Indiquer le gain de l’antenne active par rapport à l’antenne de type doublet demi-onde (en dB) si la fréquence est entre 27.5 MHz et 890 MHz. Indiquer le gain de l’antenne active par rapport à une antenne isotrope (en dB) si la fréquence est au dessous de 27.5 MHz ou au-dessus de 890 MHz.

a. indiquer le gain maximal en dB; et

b. indiquer le gain nominal du premier lobe latéral principal en dB et le déplacement angulaire à partir du faisceau principal en degrés.

Partie 4, Bloc 9 : Largeur du faisceau

Indiquer la largeur du faisceau à 3 dB en degrés.

Part 4, Block 10: Remarks

Describe any unusual characteristics of the antenna, particularly as they relate to the assessment of electromagnetic compatibility and to amplify or clarify any of the information provided above. Use additional pages if necessary. In addition, enter the following information, if applicable:

a. the front-back ratio, in dB, for directional antennas used in radio relay circuits;

b. for phased array antennas enter:

(1) mode of operation, single or multiple beam;

(2) single beam parameters; and

(3) multiple beam parameters:

a) polarization of each beam;

a) gain of each beam;

b) beam width of each beam; and

c) scan characteristics of each beam (Part 4, block 7).

Partie 4, Bloc 10 : Remarques

Se servir de ce bloc pour décrire toute caractéristique extraordinaire de l'antenne, particulièrement dans le contexte de l'évaluation de la compatibilité électromagnétique et pour amplifier ou clarifier toute information donnée ci-dessus. Utiliser au besoin des pages supplémentaires. De plus, entrer au besoin l'information suivante :

a. le rapport avant-arrière, en dB, pour les antennes directionnelles utilisées dans les circuits de relais radio;

b. indiquer, dans le cas des antennes à commande de phase :

(1) le mode de fonctionnement, à faisceau simple ou multiple;

(2) les paramètres de faisceau simple; et

(3) les paramètres de faisceau multiple :

a) la polarisation de chaque faisceau;

b) le gain de chaque faisceau;

c) la largeur de faisceau de chaque faisceau; et

d) les caractéristiques de chaque faisceau (partie 4, bloc 7 de la ci dessus).

A3.8 **DID – Operator and Comprehensive Maintenance Manual**

DATA ITEM DESCRIPTION	
1. TITLE **Operator and Comprehensive Maintenance Manual**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-202**
3. DESCRIPTION The Operator and Comprehensive Maintenance Manual contains all the essential information required to describe the equipment, its safe and correct operation, and operator maintenance associated with the equipment.	
4. RELATED DOCUMENTS **C-01-100-100/AG-008** *Writer's Guide for Technical Documentation*	5. CONTRACT REFERENCE **SOW**: **Para. 4.4.1.1 (pg. 11)** **CDRL: App. A2.2 (pg. 26)**

6 PREPARATION INSTRUCTIONS

6.1 **CONTENT**

6.1.1 The Operator and Comprehensive Maintenance Manual must cover the following topics, and others judged pertinent by the Contractor:

6.1.1.1 General Description/Equipment Overview including technical specifications and part numbers;

6.1.1.2 Software installation and initial setup;

6.1.1.3 Pre-use testing/inspection;

6.1.1.4 Preparation and set up for use;

6.1.1.5 Use and operation, including operation under emergency, adverse, or abnormal conditions, when applicable;

6.1.1.6 Operator Maintenance, IAW the Maintenance Concept para 4.1 (pg. 10);

6.1.1.7 Shut-down and post-shut-down actions and precautions;

6.1.1.8 Preparation for equipment transit by air, land, and sea;

6.1.1.9 Safety/Hazardous material issues;

6.1.2 The Operator and Comprehensive Maintenance Manual material covered in 6.1.1 above, must be amplified by colour illustrations, line drawings, and good quality colour pictures.

6.2 **GENERAL FORMAT**

6.2.1 The Operator and Comprehensive Maintenance Manual must be prepared in the Contractor's format while being in full conformance with the above-stated issue of C-01-100-100/AG-008.

6.2.2 The Operator and Comprehensive Maintenance Manual must include the National Defence Index of Documentation (NDID) number (provided to the Contractor by DND) that must be placed on the top right corner of all the pages of the manual.

6.3 **HARD COPY FORMAT**

6.3.1 The accepted Operator and Comprehensive Maintenance Manual hard copies must be:

6.3.1.1 Printed on paper with these characteristics:

6.3.1.1.1 Standard US Letter Size (270 mm x 216 mm)

6.3.1.1.2 Covers: 320-370 g/m2 polyester film (such as Pico Film), matt surface and white colour

6.3.1.1.3 Pages: 90-140 g/m^2 polyester film (such as Pico Film), matt surface and white colour

6.3.1.2 Bound with white or black spiral coil (PLASTIKOIL®)

6.4 **SOFT COPY FORMAT**

6.4.1 The Operator and Comprehensive Maintenance Manual must be provided as a PDF file with searchable text that matches the printed publication's format and layout. Links, bookmarks and thumbnails are to be included in the PDF file. All references made to a specific paragraph, figure, appendix must be appropriately linked.

6.4.2 Viewing the Operator and Comprehensive Maintenance Manual PDF: pages, regardless of size, containing text and illustrations in landscape, must be rotated for electronic viewing and reading in landscape.

6.4.3 **Soft Copy format submission size below 7MB** – The Operator and Comprehensive Maintenance Manual PDF and its native file may be submitted via email as follows:

6.4.3.1 To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.4.3.2 Subject Field: DRPS-ILS-202 – Operator and Comprehensive Maintenance Manual – [Rev #] – [Date of Issue]

6.4.4 **Soft Copy format submission size at or above 7MB** - The Operator and Comprehensive Maintenance Manual PDF and its native file must be submitted on CD or DVD media and be labelled as follows:

6.4.4.1 Digital Radiography Panel System

6.4.4.2 Operator and Comprehensive Maintenance Manual;

6.4.4.3 DRPS-ILS-202;

6.4.4.4 The Revision number, and

6.4.4.5 The date of issue.

A3.9 **DID – Operator Quick Reference Card**

DATA ITEM DESCRIPTION	
1. TITLE **Operator Quick Reference Card**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-203**
3. DESCRIPTION Operator Quick Reference Card (OQRC) will allow the trained user to quickly unpack, assemble, and safely use the equipment.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE **SOW**: **Para. 4.4.1.2.1 (pg. 11)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT**

6.1.1. The OQRC must contain the necessary instructions to allow a trained user to quickly, safely and effectively operate the equipment.

6.1.2. The OQRC must assume that the equipment's initial state is packed in its carrying case (see Technical Specification(s)).

6.1.3. The OQRC instructions must be based on pictograms illustrating the sequence of steps required while using only minimal text to assist in the understanding of the document. Desired look and feel would be similar to commercial airline safety pamphlets describing the use of oxygen masks, and emergency exits.

6.1.4. The OQRC must not introduce new information and procedures not also described in the Operator Manual, as the Operator Manual is the master document on how to use the equipment.

6.1.5. The OQRC cautionary advisory's heading must be determined based on the criteria set out in ANNEX A SOW para. 4.4.3.1.

6.1.6. The OQRC cautionary advisory must read as follows: "**This Operator Quick Reference Card is intended solely for experienced users who have been trained on this equipment, and have read and understood its Operator Manual** (CFTO# to be supplied by DND). **When in doubt, read the Operator Manual before operating this equipment.**"

6.1.7. The OQRC cautionary advisory must also have, immediately following this text, a brief description of the consequences of misuse of the equipment, linked to the same criteria listed in 6.1.5 above.

6.2. **HARD COPY FORMAT**

6.2.1. The accepted OQRC hard copies must:

6.2.1.1. Be printed on paper with pages of 260-320 g/m^2 polyester film (such as Pico Film), matt surface and white colour, and bound with white or black spiral coil (PLASTIKOIL®);

6.2.1.2. Contain no more than four (4) sheets;

6.2.1.3. Be produced and printed exclusively in black and white.

6.3. **SOFT COPY FORMAT**

6.3.1. The OQRC must be provided as a PDF file with searchable text that matches the printed publication's format and layout. Links, bookmarks and thumbnails are to be included in the PDF file. All references made to a specific paragraph, figure, appendix must be appropriately linked.

6.3.2. Viewing the OQRC PDF: pages, regardless of size, containing text and illustrations in landscape, must be rotated for electronic viewing and reading in landscape.

6.3.3. **Soft Copy format submission size below 7MB** – The OQRC PDF and its native file may be submitted via email as follows:

6.3.3.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.3.3.2. Subject Field: DRPS-ILS-203 – OQRC – [Rev #] – [Date of Issue]

6.3.4. **Soft Copy format submission size at or above 7MB** - The OQRC PDF and its native file must be submitted on CD or DVD media and be labelled as follows:

6.3.4.1. Digital Radiography Panel System

6.3.4.2. OQRC;

6.3.4.3. DRPS-ILS-203;

6.3.4.4. The Revision number, and

6.3.4.5. The date of issue.

A3.10 **DID – Operator Training Package**

DATA ITEM DESCRIPTION	
1. TITLE **Operator Training Package**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-204**
3. DESCRIPTION The Operator Training Package will be used as the reference material during the Training Sessions, and to facilitate future lesson plan preparation on the operation, Operator maintenance and storage of the equipment.	
4. RELATED DOCUMENTS **C-01-100-100/AG-008** *Writer's Guide for Technical Documentation*	5. CONTRACT REFERENCE **SOW**: **Para. 4.4.1.3.1 (pg. 11)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT**

6.1.1. The Operator Training Package course material must include, in the order judged most appropriate by the Contractor, the following subjects:

6.1.1.1. General Description/Equipment Overview;

6.1.1.2. Software installation and initial setup;

6.1.1.3. Pre-use testing/inspection;

6.1.1.4. Preparation and set up for use;

6.1.1.5. Use and operation, including operation under emergency, adverse, or abnormal conditions, when applicable;

6.1.1.6. Preparation for travel and handling;

6.1.1.7. Safety and Hazardous material issues;

6.1.1.8. Operator Troubleshooting and testing;

6.1.1.9. Basic diagnosis and fault finding; and,

6.1.1.10. Operator Maintenance IAW the Maintenance Concept para. 4.1 (pg. 10).

6.1.2. The Operator Training Package course material must be amplified by colour illustrations, line drawings, and good quality colour pictures.

6.1.3. The Operator Training Package course material subjects must be approached from the perspective of experienced operators with knowledge of X-ray theory and safety.

6.1.4. The Operator Training Package course material must not present any information that cannot also be found in the Technical Publication Package documents, excluding this Operator Training Package; those documents remain the primary reference for the equipment.

6.1.5. The Operator Training Package must include a **Student Handout** that includes the course material described above.

6.1.6. The Operator Training Package must include an **Instructor Lesson Plan** that includes the course material described above, speaker's notes, and outlines the following:

6.1.6.1. Classroom's physical and functional requirements;

6.1.6.2. Field area's physical and functional requirements;

6.1.6.3. Training Session schedule, divided by course material subjects;

6.1.6.4. Instructor/Student ratio for the course material subjects;

6.1.6.5. Training materiel to be supplied by the Contractor;

6.1.6.6. Training material to be supplied by Canada.

6.2. **GENERAL FORMAT**

6.2.1. The Operator Training Package can be prepared in the Contractor's format while using C-01-100-100/AG-008 as guidance.

6.2.2. No Contractor or sub-contractor logo, name, trademark, or other wording or device that may be interpreted as advertising must appear in the publication.

6.2.3. The Operator Training Package **Student Handout** must have no more than three (3) slides per page of the course material, and have additional space and lines for note taking.

6.2.4. The Operator Training Package **Instructor Lesson Plan** must have one (1) slide per page of the course material, with the speaker's notes below it.

6.3. **HARD COPY FORMAT**

6.3.1. The Operator Training Package must be furnished in a three (3) ring binder(s) and printed on paper with these characteristics:

6.3.1.1. Weight of no less than 90 g/m2;

6.3.1.2. Brightness of no less than 92 ISO brightness;

6.4. **SOFT COPY FORMAT**

6.4.1. The Operator Training Package soft copy format must be MS PowerPoint.

6.4.2. **Soft Copy format submission size below 7MB** – The Operator Training Package may be submitted via email as follows:

6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.4.2.2. Subject Field: DRPS-ILS-204 – Operator Training Package – [Rev #] – [Date of Issue]

6.4.3. **Soft Copy format submission size at or above 7MB** - The Operator Training Package file must be submitted on CD or DVD media and be labelled as follows:

6.4.3.1. Digital Radiography Panel System

6.4.3.2. Operator Training Package;

6.4.3.3. DRPS-ILS-204;

6.4.3.4. The Revision number, and

6.4.3.5. The date of issue.

A3.11 **DID – Provisioning Parts Breakdown**

DATA ITEM DESCRIPTION	
1. TITLE **Provisioning Parts Breakdown**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-205**
3. DESCRIPTION The Provisioning Parts Breakdown (PPB) is a top-down breakdown of the equipment in the configuration in which it is being procured. This breakdown is accomplished by listing all parts included in the end item in a lateral and descending family tree/generation breakdown. In this breakdown, all assemblies, subassemblies and parts are listed in relation to the next higher assembly. This relationship is shown by means of an indention code as illustrated in the top-down breakdown sequence. For example, an assembly with indention code B must be followed by a detailed breakdown of all the subsequent indention codes pertaining to that assembly before the next indention code B assembly (if any) is, in turn, broken down.	
4. RELATED DOCUMENTS **D-01-100-214/SF-000** *Specification for Preparation of Provisioning Documentation for Canadian Forces Equipment*	5. CONTRACT REFERENCE **SOW**: **Para. 4.5.3.1.1 (pg. 12)** **CDRL**: **App. A2.2 (pg. 26)**

6 PREPARATION INSTRUCTIONS

6.1 **CONTENT**

6.1.1 The PPB must contain data as per Table 1 below that supersedes Figures 1 and 5 in D-01-100-214/SF-000.

6.1.2 The PPB attaching parts and fasteners, given a “Y” indention code, must immediately follow the part which they fasten.

6.1.3 The PPB Data Field definitions can be found at section 3.9.4 of the D-01-100-214/SF-000 specification. The following override applies: *Expanded Description (SPTD)* must contain the line item’s applicable SPTD filename.

6.1.4 For clarity:

6.1.4.1 *Original Equipment Manufacturer’s Part Number* refers only to the Contractor which DND has contracted to supply the equipment; data from sub-contractors for items that they did not manufacture or do not control are not permitted. This field may be left blank if no data is available, or if it is the same as the MRN.

6.1.4.2 *Quantity per Assembly* (QPA) refers to the number of times the item is used in the next higher assembly. For example, a C-level item’s QPA will show the number of times it is used in its related B-level assembly, without being multiplied by the number of B-level assemblies.

6.1.4.3 *Quantity per Equipment* (QPE) refers to the total number of times the item is used in the whole prime equipment (A-level). If that quantity exceeds 99999, the figure will show 99999 in the field, with the true quantity (if known) shown in the *Expanded Description* field.

6.1.4.4 *NATO Commercial and Government Entity* (NCAGE) Codes can be searched and requested through the NATO portal: https://eportal.nspa.nato.int/AC135Public/scage/CageList.aspx.

TABLE 1

Data Fields Required	Field Length
Item Number	6
Indention Code	1
Item Name	32
MRN	30
NCAGE	5
OEM’s Part Number	30
NATO Stock Number	16

Quantity Per Assembly (QPA)	4
Quantity Per Equipment (QPE)	5
Standard Unit Price	9
Unit Of Issue	2
Reparability Indicator (REP)	1
Government Supplied Material (GSM)	1
Procurement Lead Time (PLT)	3
Shelf Life	2
Usage Rate	5
Recommended Buy Quantity	8
SMR Code	5
Expanded Description	34
Expanded Description (SPTD)	74

6.1.5 The Source Maintenance and Recoverability (SMR) Codes are used to communicate maintenance and supply instructions to the various logistic support levels and user organizations for the logistic support of systems, equipment, and end items. The PPB SMR Codes must be chosen from the following list:

SMR Field Position	Code	Application/Explanation
First and Second Position Source Codes	PA	Item procured and stocked for anticipated or known usage. Items are normally considered for replenishment
	PC	Item procured and stocked, but is deteriorative in nature.
	PF	Support equipment which will not be stocked, but which will be centrally procured on demand.
	XA	Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly
	XC	Installation drawing, diagram, instruction sheet, or field Service drawing, that is identified by the manufacturers' part number.
Third Position Maintenance Codes	C	Support item is removed, replaced, used by the operator/crew.
	O	Support item is removed, replaced, or used at the Technician Maintenance level.
	K	Repairable item. Item is removed, replaced, or used at contractor facility.
Fourth Position Repair Codes	C	The lowest maintenance activity capable of complete repair of the support item is the operator/crew.
	O	The lowest maintenance activity capable of complete repair of the support item is the Technician Maintenance level.
	K	Repairable support item. Complete repair capability exists at a designated contractor facility.
	Z	Non-repairable.
Fifth Position Recoverability Codes	C	Repairable item. When uneconomically repairable, condemn and disposed by the operator/crew.
	Z	Non-repairable item. When item becomes unserviceable, condemn and disposed of by authorized activity.
	O	Repairable item. When uneconomically repairable, condemn and dispose at organizational activity.
	K	Repairable item. Condemnation and disposal to be performed at contractor facility.

6.2 **GENERAL FORMAT**

6.2.1 The PPB must be prepared as an MS Excel spreadsheet, formatted IAW D-01-100-214/SF-000, except where superseded by Table 1 above.

6.3 **HARD COPY FORMAT**

6.3.1 The PPB must be printed on paper with these characteristics:

6.3.1.1 Standard US Ledger size (432 mm x 279 mm)

6.3.1.2 Weight of no less than 90 g/m^2;

6.3.1.3 Brightness of no less than 92 ISO brightness;

6.4 **SOFT COPY FORMAT**

6.4.1 The PPB must be provided as an MS Excel Spreadsheet file.

6.4.2 **Soft Copy format submission size below 7MB** – The PPB may be submitted via email as follows:

6.4.2.1 To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.4.2.2 Subject Field: DRPS-ILS-205 – PPB – [Rev #] – [Date of Issue]

6.4.3 **Soft Copy format submission size at or above 7MB** - The PPB file must be submitted on CD or DVD media and be labelled as follows:

6.4.3.1 Digital Radiography Panel System

6.4.3.2 Provisioning Parts Breakdown;

6.4.3.3 DRPS-ILS-205;

6.4.3.4 The Revision number, and

6.4.3.5 The date of issue.

A3.12 **DID – Supplementary Provisioning Technical Documentation**

DATA ITEM DESCRIPTION	
1. TITLE **Supplementary Provisioning Technical Documentation**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-206**
3. DESCRIPTION The Supplementary Provisioning Technical Documentation (SPTD) fully identifies and describes part(s) that may be catalogued.	
4. RELATED DOCUMENTS **D-01-100-214/SF-000** *Specification for Preparation of Provisioning Documentation for Canadian Forces Equipment* **D-01-400-001/SG-000** *Standard - Engineering Drawing Practices*	5. CONTRACT REFERENCE **SOW**: **Para. 4.5.3.2.1 (pg. 12)** **CDRL**: **App. A2.2 (pg. 26)**

6. **PREPARATION INSTRUCTIONS**

6.1. **CONTENT**

6.1.1. The Supplementary Provisioning Technical Documentation (SPTD) must be provided for each item appearing on the Provisioning Documentation as follows:

6.1.1.1. The SPTD must include the technical data required for DND to classify and fully describe the item within the NATO codification system, allowing for item identification and cataloguing purposes.

6.1.1.2. Key elements of good SPTD:

6.1.1.2.1. Displays the true manufacturer company logo & address (or NCAGE), and MRN (see D-01-100-214/SF-000 for definitions.).

6.1.1.2.2. Lists characteristic data about the item:

6.1.1.2.2.1. Configuration;

6.1.1.2.2.2. Physical characteristics, such as dimensions, tolerances, material, mandatory processes, surface finish, and protective coatings;

6.1.1.2.2.3. Electrical Characteristics;

6.1.1.2.2.4. Performance data;

6.1.1.2.2.5. Special features which contribute to the uniqueness of the item, especially for common items modified to a particular standard of performance.

6.1.1.2.3. Clearly shows the item in question.

6.1.1.2.4. Shows where the item fits in the next higher assembly (where practical).

6.2. **GENERAL FORMAT**

6.2.1. The SPTD must be prepared as black and white line drawing(s) or with good quality photograph(s) within a Technical Datasheet.

6.2.1.1. If prepared as a drawing, the SPTD must follow the drawing format of D-01-400-001/SG-000 section 7.4, with attached parts lists (for assemblies), so that DND can ensure that the Provisioning Documentation reflects the current and complete configuration of the equipment being produced.

6.3. **HARD COPY FORMAT**

6.3.1. The SPTD must be printed on Ledger (11x17) paper with these characteristics:

6.3.1.1. Weight of no less than 90 g/m2;

6.3.1.2. Brightness of no less than 92 ISO brightness;

6.4. **SOFT COPY FORMAT**

6.4.1. The SPTD must be submitted in PDF file type, with filenames in the following format: (MRN)_(NCAGE)_(item name).pdf.

6.4.2. **Soft Copy format submission size below 7MB** – The SPTD PDFs may be submitted via email as follows:

6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.4.2.2. Subject Field: DRPS-ILS-206 – SPTD – [Rev #] – [Date of Issue]

6.4.3. **Soft Copy format submission size at or above 7MB** – The SPTD PDFs must be submitted on CD or DVD media and be labelled as follows:

6.4.3.1. Digital Radiography Panel System

6.4.3.2. SPTD;

6.4.3.3. DRPS-ILS-206;

6.4.3.4. The Revision number, and

6.4.3.5. The date of issue.

A3.13 **DID – Identification Plates – Design Template & Populated Designs**

DATA ITEM DESCRIPTION	
1. TITLE **Identification Plates – Design Template & Populated Designs**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-207**
3. DESCRIPTION The Identification Plates uniquely identify equipment and components and spares based on the procedures governing the identification marking of Canadian military property.	
4. RELATED DOCUMENTS **D-02-002-001/SG-001** *Canadian Forces Standard Identification Marking of Canadian Military Property* **D-01-400-002/SF-000** *Specification - Levels of Engineering Drawings*	5. CONTRACT REFERENCE **SOW**: **Para. 4.6.1 (pg. 13)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT AND GENERAL FORMAT**

6.1.1. In accordance with D-02-002-001/SG-001, the Identification Plates affixed to each item included in Annex A SOW para 4.6.2 must be of size, format, and construction appropriate for the item being identified, and contain the data required for those Identification Plate formats in both official languages.

6.1.2. The Identification Plates Design Template & Populated Designs must be prepared as representative Level 2 drawings (see D-01-400-002/SF-000).

6.1.2.1. The Level 2 drawings must include the mounting or installation method for each Identification Plate, with any fasteners described by size, and/or technical standard, and/or NSN, and quantity.

6.2. **HARD COPY FORMAT**

6.2.1. The Identification Plates Design Template & Populated Designs must be:

6.2.1.1. Printed in 1:1 scale;

6.2.1.2. Printed on Standard US Ledger size paper (432 mm x 279 mm), with a:

6.2.1.2.1. Weight of no less than 90 g/m^2;

6.2.1.2.2. Brightness of no less than 92 ISO brightness;

6.3. **SOFT COPY FORMAT**

6.3.1. The Identification Plates Design Template & Populated Designs must be provided as PDF files, filename labelled in the following way: [Item Name]_[MRN].pdf.

6.3.2. The Identification Plates Design Template and Populated Designs PDFs containing text and illustrations in landscape, must be rotated for electronic viewing and reading in landscape.

6.3.3. **Soft Copy format submission size below 7MB** – The Identification Plates Design Template & Populated Designs may be submitted via email as follows:

6.3.3.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.3.3.2. Subject Field: DRPS-ILS-207 – Identification Plates – [Rev #] – [Date of Issue]

6.3.4. **Soft Copy format submission size at or above 7MB** – The Identification Plates Design Template & Populated Designs file must be submitted on CD or DVD media and be labelled as follows:

6.3.4.1. Digital Radiography Panel System

6.3.4.2. Identification Plates

6.3.4.3. DRPS-ILS-207;

6.3.4.4. The Revision number, and

6.3.4.5. The date of issue.

A3.14 **DID – Controlled & Non-Controlled Goods List**

DATA ITEM DESCRIPTION	
1. TITLE **Controlled & Non-Controlled Goods List (CNCGL)**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-208**
3. DESCRIPTION Controlled Goods Items – The CNCGL identifies if the controlled goods end items, components and sub-components of the equipment are specifically designed and modified for military purpose, and provides the Demilitarization Instructions if required. Non-Controlled Goods Items – The CNCGL still includes non-controlled goods end items, components and sub-components of the equipment, as they will still require a DMC assignment.	
4. RELATED DOCUMENTS **C-02-007-000/AG-001** *Controlled Technology Access and Transfer (CTAT) Manual*	5. CONTRACT REFERENCE **SOW**: **Para. 4.7.1 (pg. 13)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT**

6.1.1. The CNCGL must identify end items accordingly, IAW C-02-007-000/AG-001:

6.1.1.1. For Canadian origin items, Canada's Export Control List (ECL) articles that apply in accordance with the Defence Product Act (DPA);

6.1.1.2. For US origin dual use, the Export Control Classification Number (ECCN) of the Commerce Control List that applies;

6.1.1.3. For US origin controlled goods also known as defence articles, the United States Munitions List (USML) Category and paragraph that apply in accordance with the International Traffic in Arms Regulations (ITAR);

6.1.1.4. For all other countries other than Canada and the USA, the category and article of the Wassenaar Control List that applies, and

6.1.1.5. All items require a Demilitarization Code (DMC).

6.2. **GENERAL FORMAT**

6.2.1. The CNCGL must be in spreadsheet format with 6 columns:

6.2.1.1. Item name;

6.2.1.2. Manufacturer's Reference Part Number;

6.2.1.3. Ref para for Canadian origin items (ECL);

6.2.1.4. Ref para for US origin controlled goods (USML);

6.2.1.5. Demilitarization Code (DMC);

6.2.1.6. Formal Demilitarisation Instructions, if DMC is F;

6.2.1.7. Remarks.

6.3. **HARD COPY FORMAT**

6.3.1. The CNCGL must be printed on paper with these characteristics:

6.3.1.1. Weight of no less than 90 g/m2;

6.3.1.2. Brightness of no less than 92 ISO brightness;

6.4. **SOFT COPY FORMAT**

6.4.1. The CNCGL must be provided as an MS Excel Spreadsheet file.

6.4.2. **Soft Copy format submission size below 7MB** – The CNCGL may be submitted via email as follows:

6.4.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.4.2.2. Subject Field: DRPS-ILS-208 – CNCGL – [Rev #] – [Date of Issue]

6.4.3. **Soft Copy format submission size at or above 7MB** – The CNCGL file must be submitted on CD or DVD media and be labelled as follows:

6.4.3.1. Digital Radiography Panel System

6.4.3.2. CNCGL

6.4.3.3. DRPS-ILS-208;

6.4.3.4. The Revision number, and

6.4.3.5. The date of issue.

A3.15 **DID – Identification Labels for Storage & Shipment and Packaging Codes**

DATA ITEM DESCRIPTION	
1. TITLE **Identification Labels for Storage & Shipment and Packaging Codes**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-209**
3. DESCRIPTION The Identification Labels for Storage & Shipment and Packaging Codes (CF271 forms) ensures that the labelling used to identify packages for items procured by DND and shipped to and stored at a Canadian facility comply with CAF specifications. As well, this will allow DND to obtain a complete record of packaging codes for catalogued items of the equipment.	
4. RELATED DOCUMENTS **D-LM-008-011/SF-001** *Preparation and Use of Packaging Requirements Codes* **D-LM-008-002/SF-001** *Specification for Marking for Storage and Shipment* **D-01-400-002/SF-000** Specification - *Levels of Engineering Drawings* **CF271** *Form (MS Excel version provided by DND after contract award)*	5. CONTRACT REFERENCE **SOW**: **Para. 4.8.3 (pg. 13)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT AND GENERAL FORMAT**

6.1.1. The Identification Labels for Storage & Shipment design, populated with the appropriate data, must be provided as Level 1 drawings (see D-01-400-002/SF-000) and include dimensions to show the measurements as defined by D-LM-008-002/SF-001 (example: text size, bar code dimensions).

6.1.2. A separate Packaging Code (CF271 Form) must be provided electronically for each item that:

6.1.2.1. Requires special packaging, packing, or preservation considerations to meet the required protection level (see 4.8.1 of the SOW), as per D-LM-008-011/SF-001 (see Table 1 below); and,

6.1.2.2. Has a NATO Stock Number (NSN).

6.1.3. The CF271 forms' file name must correspond to the item listed within, either by its part number or NSN (example: CF271 9422-01-552-8836.xls).

6.2. **HARD COPY FORMAT**

6.2.1. The Identification Labels for Storage & Shipment designs must be printed on paper with these characteristics:

6.2.1.1. Standard US Ledger size (432 mm x 279 mm)

6.2.1.2. Weight of no less than 90 g/m2;

6.2.1.3. Brightness of no less than 92 ISO brightness;

6.3. **SOFT COPY FORMAT**

6.3.1. The Identification Labels for Storage & Shipment designs must be provided as PDF files.

6.3.2. The Identification Labels for Storage & Shipment designs PDFs containing text and illustrations in landscape, must be rotated for electronic viewing and reading in landscape.

6.3.3. The Packaging Codes (CF271 forms) must be provided as MS Excel Spreadsheet files.

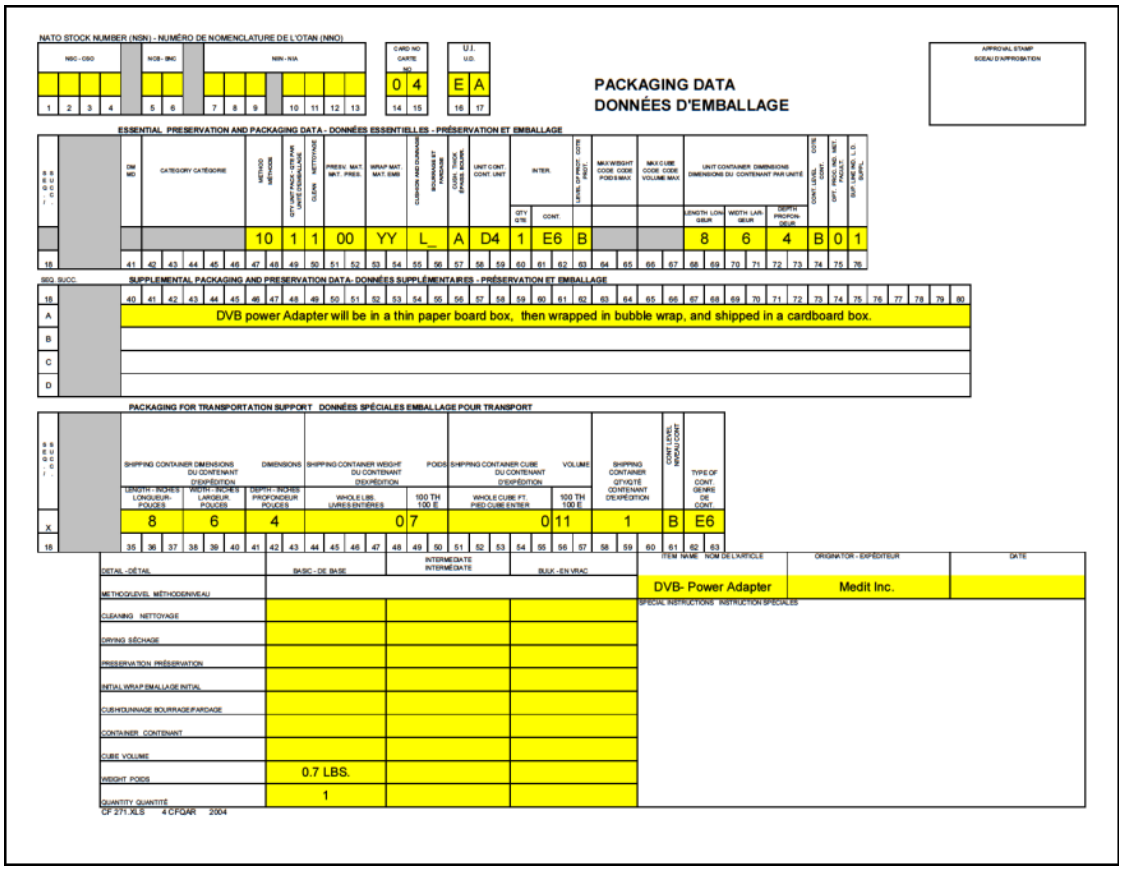
6.3.4. **Soft Copy format submission size below 7MB** – The Identification Labels for Storage & Shipment and Packaging Codes may be submitted via email as follows:

6.3.4.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.3.4.2. Subject Field: DRPS-ILS-209 – Identification Labels for Storage & Shipment and Packaging Codes – [Rev #] – [Date of Issue]

6.3.5. **Soft Copy format submission size at or above 7MB** – The Identification Labels for Storage & Shipment and Packaging Codes files must be submitted on CD or DVD media and be labelled as follows:

6.3.5.1. Digital Radiography Panel System
6.3.5.2. Identification Labels for Storage & Shipment and Packaging Codes
6.3.5.3. DRPS-ILS-209;
6.3.5.4. The Revision number, and
6.3.5.5. The date of issue.



NATO STOCK NUMBER (NSN) - NUMÉRO DE NOMENCLATURE DE L'OTAN (NNO)

NSC - CSO	NCB - BNC	NIIN - NVA	CARD NO CARTE NO	U.I. U.D.
			0 4	E A

PACKAGING DATA
DONNÉES D'EMBALLAGE

APPROVAL STAMP
SCEAU D'APPROBATION

ESSENTIAL PRESERVATION AND PACKAGING DATA - DONNÉES ESSENTIELLES - PRÉSERVATION ET EMBALLAGE

SEQ SUCC	DM MD	CATEGORY CATÉGORIE	METHOD MÉTHODE	QTY UNIT PACK QTÉ PAR UNITÉ D'EMBALLAGE	CLEAN NETTOYAGE	PRESV. MAT. MAT. PRES.	WRAP MAT. MAT. EMB	CUSHION AND DUNNAGE COUSSINS ET FARDAGE	UNIT CONT CONT. UNIT	INTER. QTY QTE	INTER. CONT.	LEVEL OF PROT. NIVEAU DE PROT.	MAX WEIGHT CODE CODE POIDS MAX	MAX CUBE CODE CODE VOLUME MAX	UNIT CONTAINER DIMENSIONS DIMENSIONS DU CONTENANT PAR UNITÉ LENGTH LONGUEUR	WIDTH LARGEUR	DEPTH PROFONDEUR	CONT. LEVEL CONT. NIVEAU CONT.	OPT. PROJ. NO. NO. PROJET FACULT.	SUP. LINE NO. L.D. SUPPL.
			10	1	1	00	YY	L_	A	D4	1	E6	B			8	6	4	B	0	1

SUPPLEMENTAL PACKAGING AND PRESERVATION DATA - DONNÉES SUPPLÉMENTAIRES - PRÉSERVATION ET EMBALLAGE

A	DVB power Adapter will be in a thin paper board box, then wrapped in bubble wrap, and shipped in a cardboard box.
B	
C	
D	

PACKAGING FOR TRANSPORTATION SUPPORT DONNÉES SPÉCIALES EMBALLAGE POUR TRANSPORT

SEQ SUCC	SHIPPING CONTAINER DIMENSIONS DU CONTENANT D'EXPÉDITION LENGTH - INCHES LONGUEUR - POUCES	WIDTH - INCHES LARGEUR POUCES	DIMENSIONS DEPTH - INCHES PROFONDEUR POUCES	SHIPPING CONTAINER WEIGHT DU CONTENANT D'EXPÉDITION WHOLE LBS. LIVRES ENTIÈRES	POIDS 100 TH 100 E	SHIPPING CONTAINER CUBE DU CONTENANT D'EXPÉDITION WHOLE CUBE FT. PIED CUBE ENTIER	VOLUME 100 TH 100 E	SHIPPING CONTAINER QTY/CTE CONTENANT D'EXPÉDITION	CONT. LEVEL NIVEAU CONT	TYPE OF CONT. GENRE DE CONT.
X	8	6	4	0	7	0	11	1	B	E6

DETAIL - DÉTAIL	BASIC - DE BASE	INTERMEDIATE INTERMÉDIATE	BULK - EN VRAC
METHOD/LEVEL MÉTHODE/NIVEAU			
CLEANING NETTOYAGE			
DRYING SÉCHAGE			
PRESERVATION PRÉSERVATION			
INITIAL WRAP EMBALLAGE INITIAL			
CUSHIOUNNAGE BOURRAGE/FARDAGE			
CONTAINER CONTENANT			
CUBE VOLUME			
WEIGHT POIDS	0.7 LBS.		
QUANTITY QUANTITÉ	1		

ITEM NAME NOM DE L'ARTICLE: DVB- Power Adapter
ORIGINATOR - EXPÉDITEUR: Medit Inc.
DATE:
SPECIAL INSTRUCTIONS INSTRUCTION SPÉCIALES

CF 271.XLS 4 CFGAR 2004

Table 1: Sample CF271 form

A3.16 **DID – List of Items to be Supported**

DATA ITEM DESCRIPTION	
1. TITLE **List of Items to be Supported**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-210**
3. DESCRIPTION The List of Items to be Supported (LIS) will provide the repairable/consumable item data, software items and technical data, which will be supported once the system is delivered. DND will use this information, along with the provisioning data, to populate the Support SOW Appendix A1.0 tables.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE **SOW**: **Para. 4.9.1 (pg. 13)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT**

6.1.1. The LIS must provide an overview and understanding to DND on how the DRPS and its associated equipment will be supported once the DRPS is delivered. Refer to the Support SOW for further information.

6.1.2. The LIS must provide the following completed tables, stemming from the Concept of Operation & Support (in accordance with the Support SOW), and in accordance with the Maintenance Concept ANNEX A paragraph 4.1.1.1 (page 10):

6.1.2.1. Supported Equipment and Spares Table – This includes the repairable equipment or components of the complete system and consumable equipment.

6.2. **GENERAL FORMAT**

6.2.1. The LIS must be prepared as an MS Word document with tables.

6.3. **SOFT COPY FORMAT**

6.3.1. The LIS must be provided as an MS Word file.

6.3.2. **Soft Copy format submission size below 7MB** – The LIS may be submitted via email as follows:

6.3.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.3.2.2. Subject Field: DRPS-ILS-210 – LIS – [Rev #] – [Date of Issue]

6.3.3. **Soft Copy format submission size at or above 7MB** – The LIS file must be submitted on CD or DVD media and be labelled as follows:

6.3.3.1. Digital Radiography Panel System

6.3.3.2. LIS

6.3.3.3. DRPS-ILS-210;

6.3.3.4. The Revision number, and

6.3.3.5. The date of issue.

Supported Equipment and Spares Table

An explanation of each column is detailed below:

1. System Identifier MRN/OEM Part No – A unique identifier for the Item, as used in the applicable technical manuals or supply management system.

2. Item Nomenclature – The name of the Item that may include Item class/group categories and functional descriptors.
3. NATO Stock Number (NSN) – The 13-digit identifier used in NATO and allied cataloguing systems. The NSN will be included if the Item is to be ordered by DND.
4. Regular or Free-Flow R&O by Item
    a. Repair Cost Estimate (RCE) – Identifies that the item will require a cost estimate before repairs or overhaul can begin.
        i. This is used for regular R&O when equipment is more complex so the TA requires more visibility on what is being proposed, has not yet reached steady-state and is therefore harder to predict typical repair costs/requirements, and repairs occur at a low rate.
    b. Maximum Repair Cost (MRC) – Identifies the maximum amount authorized that includes all labour and material costs, to be expended to repair an item. Repairs above the MRC must be approved by DND before any repair or overhaul work commences. Standard Selection Notice Observation Message procedures as detailed in A-LM-184-001/JS-001 must apply.
        i. This is used for free-flow R&O when equipment repairs are well understood or are less complex, and are used for repairs that occur at a high rate.
5. Repair Turn-Around-Time (TAT) – Identifies the Repair TAT, if different from the general Repair TAT, as defined in Support SOW, indicating that this item is of greater importance to the operation of the DRPS and therefore requires a faster turn-around. Repair TAT is indicated in calendar days; if left blank, then general Repair TAT is followed.

NOTE: INFORMATION IN THIS TABLE WILL BE FINALIZED AFTER DELIVERY AND ACCEPTANCE OF THE PROVISIONING DOCUMENTATION.

Item Identifier MRN/OEM Part No. **(1)**	**Item Nomenclature** **(2)**	**NSN** **(if item can be ordered)** **(3)**	**Regular or Free-Flow** **RCE/MRC** **(4)**	**Repair TAT** **(cal. Days)** **(5)**
	DRPS		RCE	

A3.17 **DID – Equipment Environmental Assessment**

DATA ITEM DESCRIPTION	
1. TITLE **Equipment Environmental Assessment (EEA)**	2. IDENTIFICATION NUMBER **DID DRPS-ILS-211**
3. DESCRIPTION The EEA identifies and documents potential environmental impacts of the equipment over the entire life-cycle and the associated mitigation measures required to reduce or eliminate them.	
4. RELATED DOCUMENTS	5. CONTRACT REFERENCE **SOW**: **Para. 5.4.1 (pg. 16)** **CDRL**: **App. A2.2 (pg. 26)**

6. PREPARATION INSTRUCTIONS

6.1. **CONTENT**

6.1.1. **Title Page**

6.1.1.1. Equipment Name and NSN (if available).

6.1.1.2. Assessment Contact: Name, title and company name of the author of the EEA.

6.1.2. **Executive Summary**

6.1.2.1. Provide a brief summary of potential environmental impacts and recommended mitigation measures for each life-cycle (test and evaluation following production, operation and maintenance, and demilitarization and disposal).

6.1.3. **Equipment Description**

6.1.3.1. Equipment description: Provide an overview of the equipment and identify each major sub-system as per the Equipment Breakdown Structure.

6.1.3.2. For each major sub-system, identify the following:

6.1.3.2.1. Ionizing radiation sources (radioisotopes and x-ray). e.g. Uranium, Radon, plutonium and tritium etc.

6.1.3.2.2. Non-ionizing radiation sources (radiofrequency and lasers).

6.1.3.2.3. Identify toxic substances that are incorporated into the equipment design. Provide additional information in tabular form in Annex A.

6.1.3.2.4. Identify chemical products listed in Annex B.

6.1.3.2.5. Provide Safety Data Sheets (SDS) that are less than three years old for all chemical products in accordance with WHMIS 2015 requirements in Annex C for all chemical products.

6.1.4. **Environmental Assessment**

6.1.4.1. For each lifecycle phase (test and evaluation following production, operation and maintenance, and demilitarization and disposal) discuss the following:

6.1.4.1.1. Lifecycle activities: Describe anticipated activities (including operator and maintenance tasks that are detailed in Contractor provided Technical Documentation) and identify if any of these activities have the potential to: release a polluting substance to air, water or land (e.g. exhaust emissions, hazardous waste, spills, etc.); impact human health; noise or vibration; and/or alter landscape features. Note: The scope of the EEA excludes activities related to the use of munitions.

6.1.4.1.2. Environmental impacts: Describe the potential environmental impacts identified above.

6.1.4.1.3. Mitigation Measures: Describe mitigation measures to eliminate or reduce identified potential environmental impacts, including those that are part of the design, any warning devices,

emission control equipment, spill response, safe handling and disposal procedures, training, PPE, labels on equipment, cautions and warnings in the Technical Documentation, monitoring or inspections, etc.

6.1.5. **Conclusions and Recommendations**

6.1.5.1. Summarize the main environmental impacts and recommended mitigation measures.

6.1.6. **References**

6.1.6.1. List references consulted in the completion of the EEA (such as Canadian legislation, DND policies and procedures, technical documentation, etc.).

6.1.7. **Annex A - List of Toxic Substances in the Equipment**

Toxic Substance	NSN	Original OEM Part Number	Item Description	Location	Additional Details
Antimony, Arsenic, Beryllium, Brass, Bronze,Chromium VI, Cobalt, Copper, Lead, Precious and radioactive metals					
Halocarbons					Type and weight (kg). Global Warming Potential of Hydrofluorocarbons used for refrigerant applications.
Ionizing radiation					Type and quantity or activity level
Mercury and its compounds					Product Category, form of mercury (e.g. liquid, vapour) and weight (mg)
Non-ionizing radiation					Type of electromagnetic energy (laser, microwave, radio frequency) and strength
Polychlorinated Biphenyl					Form (liquid or solid), quantity (kg), volume (L) and concentration in ppm

Note: Provide information on the presence of other metals, metal coatings, surface treatments, etc.

6.1.8. **Annex B – List of Chemical Products**

Chemical Product	NSN	Product Part Number / Manufacturer	Ingredient	Chemical Abstract Service Number	Controls*
Adhesives, anti-seize, batteries, solvents, cleaners and degreasers, compressed gases, corrosion inhibitor, cutting fluid, decontaminant, desiccant, detector kit, fire extinguishing agent, fuel, grease, inspection penetrant, lubricants, paints and related commodities (CARC topcoat, CARC primer, CARC wash-primer, sealants.					

*Controls: Identify if the substance is regulated under the Canadian Environmental Protection Act, 1999; targeted in Schedule 1, Toxic Substance List under CEPA and/or subject to the reporting requirements under the National Pollutant Release Inventory (NPRI).

6.1.9. **Annex C – Safety Data Sheets SDS for all chemical products identified in the EEA**

6.2. **SOFT COPY FORMAT**

6.2.1. The EEA must be provided as a PDF file.

6.2.2. **Soft Copy format submission size below 7MB** – The EEA may be submitted via email as follows:

6.2.2.1. To Field: As per the related CDRL section 9.A. Addressee, as identified in the contract.

6.2.2.2. Subject Field: DRPS-ILS-211 – EEA – [Rev #] – [Date of Issue]

6.2.3. **Soft Copy format submission size at or above 7MB** – The EEA file must be submitted on CD or DVD media and be labelled as follows:

6.2.3.1. Digital Radiography Panel System

6.2.3.2.	EEA
6.2.3.3.	DRPS-ILS-211;
6.2.3.4.	The Revision number, and
6.2.3.5.	The date of issue.

MANDATORY TECHNICAL CRITERIA

FOR THE

DIGITAL RADIOGRAPHY PANEL SYSTEM

NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document must continue to apply.

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originalement doivent continuer de s'appliquer.

TABLE OF CONTENTS

1.0 GENERAL

1.1 Introduction

1.1.1 This document is split in two parts and defines the criteria that will be used to determine the winning bid for the procurement of the Digital Radiography Panel System (DRPS).

1.1.1.1 The first part, Technical Proposal Requirements, defines the information required from the Bidders for their proposal to be evaluated.

1.1.1.2 The second part, Technical Bid Evaluation, defines the evaluation process Canada will undertake.

2.0 TECHNICAL PROPOSAL REQUIREMENTS

2.1 Responding to Evaluation Criteria

2.1.1 Bidders must provide the information required for each listed requirement in accordance with the method identified in the "Compliance Documentation Required" column in the Evaluation of Key Mandatory Requirements table(s).

2.1.1.1 The following compliance methods define the information required:

2.1.1.1.1 **Compliance Statement (CS)** - Where "CS" is identified, the Bidder must describe in detail how the equipment offered fully complies with the requirement. Supporting documentation is requested but not essential.

2.1.1.1.2 **Test Report (TR)** - **Where "TR" is identified, the Bidder must <u>provide a completed and detailed Test Report</u>, including test procedures, data and results, for tests conducted on the equipment offered to confirm it fully complies with the requirement.**

2.1.2 For each listed requirement, the Bidder must provide a response in the "Bidder's Response/References" column in the Evaluation of Key Mandatory Requirements table(s) to clearly explain how the requirement is met, either by including the specific reference to indicate where in their proposal the information is found or including the complete response directly in that column.

3.0 TECHNICAL BID EVALUATION

3.1 Technical Evaluation of Compliance

3.1.1 Evaluation of Key Mandatory Requirements

3.1.1.1 The evaluation team will use the Bidder's submitted proposal to determine compliance against key mandatory requirements. See the Evaluation of Key Mandatory Requirements table(s) for more details.

3.1.2 Assessment

3.1.2.1 Results of compliance and non-compliance will be provided through PSPC CA.

3.2 Evaluation of Key Mandatory Requirements – Digital Radiography Panel System (DRPS)

Serial	Requirement Reference(s)	Requirement Description	Compliance Documentation Required **CS** – Compliance Statement **TR** - Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
					"C"	"NC"
M1	ANNEX A – Para A1.2.1.3	The DR Panel must connect to and control the Golden Engineering XRS-3 (NSN 01-675-3759) 20 V version with 7 pin connector, that is in-service with DND, as a source to generate the X-rays.	CS			
M2	ANNEX A – Para A1.2.1.4.2	**Wireless Link Mode** The DR Panel must have a wireless link mode from the DR Panel to the Toughbook® 33 computer with a range of no less than 200 m.	CS			
M3	ANNEX A – Para A1.3.1	**Size** The DR panel must have an imaging area size of no less than 400 mm by 350 mm. The DR panel must be no more than 550 mm by 550 mm by 50 mm in size.	CS			
M4	ANNEX A – Para A1.3.2	**Weight** The DRPS, as per para. A1.1.1.2, must weigh no more than 25 kg. The DR Panel must weigh no more than 10 kg.	CS			
M5	ANNEX A – Para A1.4.1	**Image Resolution** The DRPS must have an analog to digital conversion range of no less than 16 bits. The DR Panel must provide an image with a resolution of no more than 155 micrometers (155 µm).	CS			

Serial	Requirement Reference(s)	Requirement Description	Compliance Documentation Required **CS** – Compliance Statement **TR** - Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
					"C"	"NC"
M6	ANNEX A – Para A1.4.2	**Image Rendering Time** The DRPS must provide an image in no more than 10 seconds from the time when the DR Panel is exposed to X-rays.	CS			
M7	ANNEX A – Para A1.4.3	**Advanced Imaging** The DRPS must detect, display and differentiate organic and inorganic material within the scanned image. The DRPS must display scanned images with a visual depth assisting the user in determining where an object is located in 3-axis.	CS			
M8	ANNEX A – Para A1.4.5.2	The DR Panel must have a built-in rechargeable battery providing no less than two (2) hours of operation, assuming no more than 30 scans in the two (2) hours.	CS			
M9	ANNEX A – Para A1.4.6	**Ingress Protection** The DR Panel and accessories must have no less than an IP67 rating, or equivalent, IAW NEMA IEC 60529, when operating in Wireless Link Mode and Wired Link Mode.	TR			
M10	ANNEX A – Para A1.4.7	**Impact Survivability** The DR Panel and accessories must remain fully functional when dropped from a height of no less than 75 centimeters, impacting a rigid surface, and dropped in any orientation.	TR			