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Canada

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Specification for Electronic Technical Data Deliverables



Canadian Coast Guard
Specification

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SPECIFICATION FOR ELECTRONIC TECHNICAL DATA DELIVERABLES

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Document Management

1. Authority

This document is issued by the Director General, Integrated Technical Services, CCG's National Technical Authority under delegation from the Deputy Minister, Fisheries and Oceans Canada and the Commissioner of the Canadian Coast Guard.

2. Responsibility

- a) Director, Integrated Logistic Support (ILS) is responsible for:
 - i) the creation and promulgation of the document; and
 - ii) the identification of an Office of Primary Interest (OPI) who is responsible for the coordination and the content of the document.
- b) The OPI is responsible for:
 - i) the validity and accuracy of the content;
 - ii) the availability of this information;
 - iii) the update as needed;
 - iv) the periodical revision; and
 - v) the follow-up of all requests, comments and/or suggestions received by the originator.

3. Inquiries and/or Revision Requests

All inquiries regarding this document, including suggestions for revision and requests for interpretation shall be addressed to:

Position Title: Manager, Configuration Management and Technical Data Management (ILS)
Address: Fisheries and Oceans Canada – Canadian Coast Guard
200 Kent Street, Station 7N135B
Ottawa, Ontario
K1A 0E6

All requests should:

- i) be clear and concise; and
- ii) reference the specific Chapter, Section, Figure or Table.

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Foreword

1. Purpose

This specification provides CCG employees with a standardized definition of the attributes of electronic technical documents and drawings that should be adhered to when preparing and when contracting for the preparation of such materials.

2. Scope

This specification defines the external attributes of conventional technical documents and drawings, when delivered in electronic format. This specification does not define the contents of a technical document or drawing, does not define the techniques with which these materials may be prepared, and it does not define how the conversion of existing documents and drawings should be performed.

For the purposes of this specification, a technical document or drawing is any object combining textual, numeric and graphical elements that renders technical information useable by CCG personnel in the course of equipment operations, maintenance and repair. This includes objects in all common MS Office files, in other electronic formats such as PDF and TIFF, and specialized electronic formats such as those in which CAD files are usually stored. These objects may be presented using a wide range of media, including paper (whether printed from electronic source or originally produced in paper form), vellum, magnetic disc, tape, CD/DVD, USB devices, and all other hard copy formats.

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Chapter 1 CONVERSION OF TECHNICAL DOCUMENTS

For each technical document converted, the contractor shall provide soft copies in either image or text format.

1.1 IMAGE FORMAT

Deliverables in image format shall be prepared as separate individual Tagged Image File Format (TIFF) images in accordance with Adobe Systems Inc. specification "TIFF Revision 6", compressed to CCITT Group 4, or in Portable Document Format (PDF) as output by Adobe Acrobat 8 Professional and readable using Adobe Acrobat Reader 7.0.8. Files shall be UNTILED and be wholly raster (hybrid files shall not be delivered). Image resolution shall be no greater than 300 dpi, unless otherwise specified.

1.2 TEXT FORMAT

1.2.1 Text Document Files

Deliverables in text format shall be prepared as separate Microsoft Word version 9 (or later) files, styled using an official style template to be provided by the project OPI and available from ITS. All blank pages, figures, illustrations and foldouts shall be embedded within the file(s). These Microsoft Word files are considered the "Master Document" files for present and future revision, changes and/or re-use. The master document shall be broken down into a number of folders and files in order to ensure the file sizes can be managed on the normal office word processor. Files should be broken at logical page locations to ensure future ease of use (this would normally occur at the end of a part/chapter or section). Folder and file names shall be created as indicated herein

1.2.2 Embedded Image Files

All illustrations (Figures) embedded in a text document shall be delivered as separate individual Tagged Image File Format (TIFF) images in accordance with Adobe Systems Inc. specification "TIFF Revision 6", compressed to CCITT Group 4. Files shall be UNTILED and be wholly raster (hybrid files shall not be delivered). Embedded image resolution shall be no greater than 300 dpi.

1.2.3 Master Read Only Files

All text deliverables in Microsoft Word format shall be accompanied by a PDF file that shall contain the complete document. This file(s) is considered the "Master Read Only" file for printing/reproduction/viewing purposes. All pages contained in the PDF file shall be oriented such that they do not require rotation when viewing. This file shall contain "thumbnails" of each of the pages. The Master Read Only File is not a replacement for the Master Document files. The contractor shall ensure that a quality check is done on the Read Only (PDF) file to verify that the content reflects the same content/formatting as the Master Document file. The requirements for

hyperlinks within the Master Read Only File shall be specified on the individual task or tasks. In the case of changes, a second PDF file that contains only the changed sheets is also required.

1.3 FOLDER AND FILE NAMES

Delivered files, whether image or text, shall be contained within a hierarchy of Folders and Files as described below and displayed in Figures 1, 2 and 3, below.

1.3.1 First Level Folder

The 1st level Folder Name shall be created using the first 3 characters of the Publication Number (code fields 1 and 2 - dash excluded) and shall be lower case (e.g. "c01"). No files shall be placed in this folder.

1.3.2 Second Level Folder

The 2nd level Folder Name shall be created using the remaining characters of the Publication number (code fields 3 through 6 – dashes and back slash excluded) A period "." shall be placed after the 8th character (between code fields 5 and 6), e.g. "350000mn.000". No files shall be placed in this folder.

1.3.3 Third Level Folder

This folder will identify the language, issue date and number of books of the publication. The folder name shall be created as follows:

- The first character will represent the publication language;
"b" = The Bilingual publication when created in 2 column side by side or facing page format;
"e" = The English publication or the English portion of a bilingual publication created in tumble format; or
"f" = The French publication or the French portion of a bilingual publication created in tumble format.
- The 2nd through the 7th characters will represent the date of issue or change (yy/mm/dd); and
- The 8th character will represent the book number. In the event that a publication has not been broken down into books an "a" shall be assigned as the default value.
a = default or book 1;
b = book 2;
c = book 3 etc.

This folder shall house the Master Read Only (PDF) file(s). The PDF file name(s) shall be created by using characters 1 through 7 as indicated above with the addition of the file type extension ".pdf". When a publication change is produced, it is necessary to generate two read only files. The first file is the master read only file for the complete publication with the changes incorporated. The second file represents the change only and shall contain only the affected sheets of the publication. The file name for the PDF file produced for change sheets shall have an "m" as the 1st character. Characters 2 through 7 and the file type extension shall be created as indicated above.

e.g. **b960301.pdf** (complete publication with changes incorporated)

m960301.pdf (changed sheets only for hard copy distribution)

1.3.4 Fourth Level Folders

Four (4) folders shall be created at the 4th Level. The four folders shall house the master document and master image files as indicated below.

1 front: This folder shall house all of the Master Document Files for the pages before Part 1 of the publication. Master document File names shall be created using the identifying number of the first page contained in the file followed by ".doc". "title" shall be used to identify the title page.

2 body: This folder shall house all Master Document Files for the pages containing the Parts/Chapters and sections of the publication. Master document file names shall be created using the identifying number of the first page contained in the file followed by ".doc".

3 back: This folder shall house all of the Master Document Files for the pages that follow the Parts/Chapters and sections of the publication. Master document file names shall be created using the identifying number of the first page contained in the file followed by ".doc". The characters "ix" shall be substituted for "INDEX" when identifying Index page numbers.

4 figures: This folder shall house all of the Master Image Files for the Publication. Master Image File names shall be a maximum of eight characters indicating figure numbers, separated by dashes, and followed by a three character extension indicative of the file format. For example, Figure 1-2-3 shall be filename "1-2-3.tif". If a Figure is divided into Sheets, the file name shall be as follows: 11-2-7s1.tif. If the Figure extends further than 9 sheets, the name shall continue as 11-2-7t0.tif, for sheet 10, 11-2-7t1.tif, for sheet 11, etc.

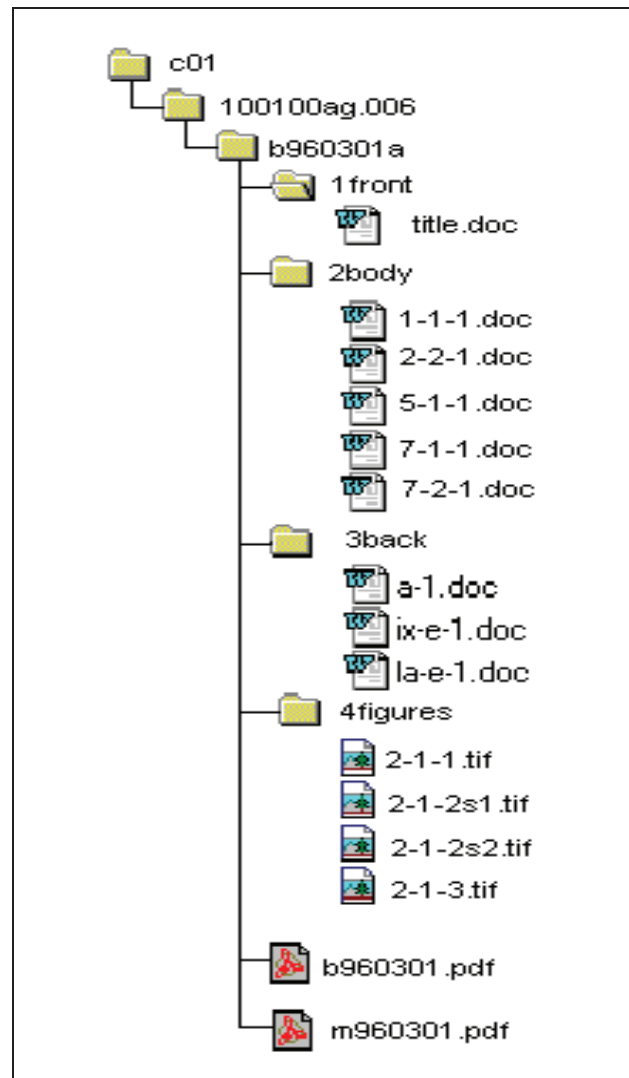


Figure 1 Structure for a Bilingual Publication

(Two columns – single book with Change 1 incorporated.)

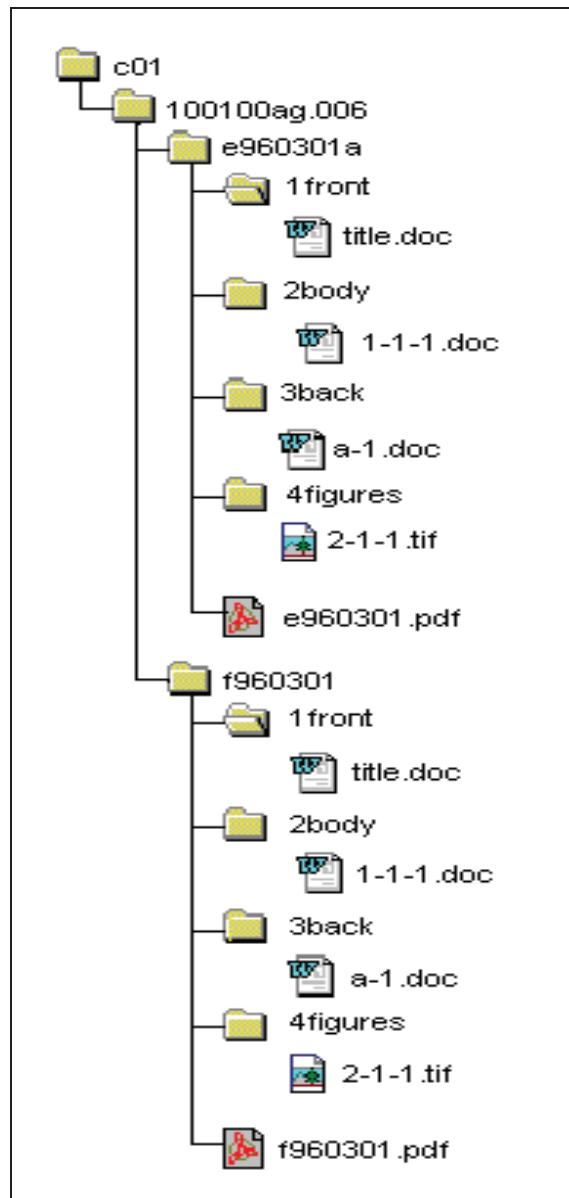


Figure 2 **Structure for a Bilingual Publication – Tumble Format**
(Tumble format – single book)

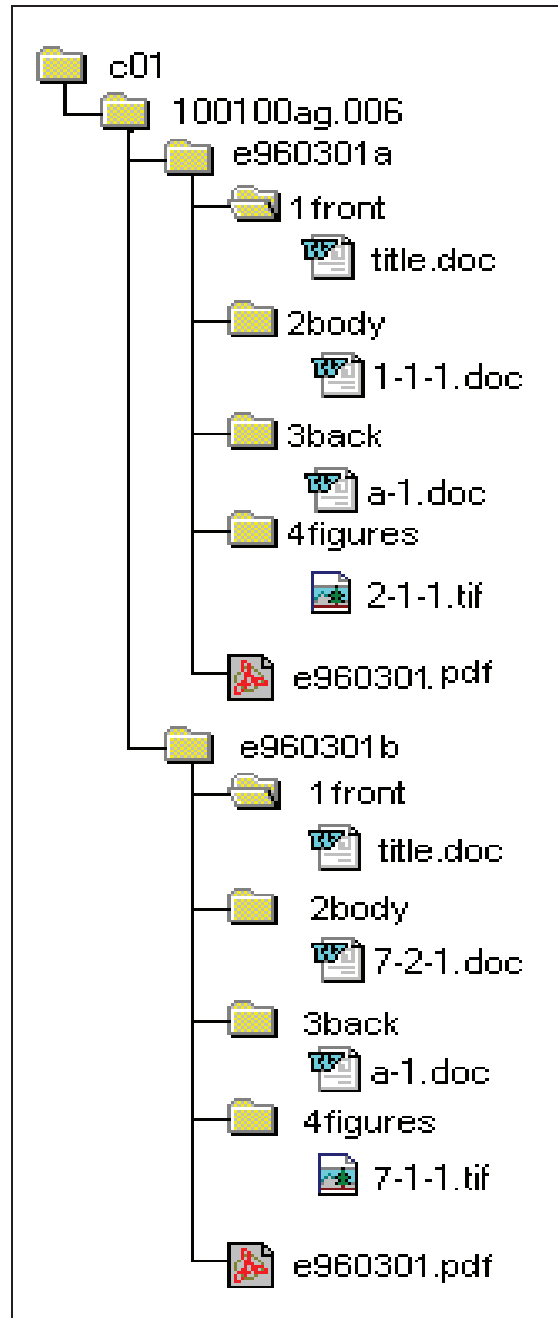


Figure 3 **Structure for an English Publication**
(Two books)

1.4 META-DATA

With each collection of image or text files forming a complete document, the meta-data defined in Table 1, below, shall be provided as a record in a comma-delimited ASCII text file named "metadata.txt". Record entries shall be separated by a "carriage return/hard return". All fields within a record, including those which are empty, shall be delimited by a "|" (pipe) symbol.

Table 1 Meta-data for documents

	Description	Format
# Pages	The total number of pages in the collection forming a document.	Numeric, unlimited value
Title	The full official title of the document or publication, as indicated on its cover page	Alphanumeric, up to 200 characters
Page Size	The format of page onto which the document will print without loss of formatting or content	Alphanumeric e.g. letter, legal etc.
Publication #	The official CCG publication number, if applicable, as displayed on the cover page. The publication number will be provided by the Head of Publications and Internet Services.	Alphanumeric e.g. CA-014-000-NU-TD-001
Author	The creator of the document	Alphabetic, first and last names
Revision Date	Date of publication or of revision, as applicable	DD-MMM-YYYY

A sample meta-data record, in ASCII file format, is as follows:

```
125|SPECIFICATION FOR ELECTRONIC TECHNICAL DATA DELIVERABLES|LETTER|
CA-014-000-NU-TD-001|PROCTER, SCOTT|01-DEC-2006|
```

1.5 MEDIUM OF DELIVERY

The contractor shall provide the deliverable electronic files, whether image or text, on standard CD-R or DVD media. Files shall not be compressed or zipped other than as specified herein. The CD-R and DVD discs shall be clearly labelled with the Publication number (as applicable), publication title, contract number and task or requisition number.

1.6 DATA RIGHTS

Unless otherwise specified, the Government of Canada shall have rights in data as set out below.

1.6.1 Unlimited Rights (Foreground Data)

The Government of Canada shall have unlimited rights in all technical documents produced or provided as a result of CCG work. The Government of Canada shall have the right to use, translate into Canada's other official language, duplicate, revise or disclose such technical data, in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so.

1.6.2 Limited Rights (Background Data)

The Government of Canada shall have limited rights only and shall hold in confidence all technical documents supplied by a Contractor and bearing the Contractor's "Limited Proprietary Rights" restrictive legend. The Government of Canada shall have the right to use, translate, duplicate or disclose such technical data, in whole or in part, by or for the Government of Canada, with the express limitation that such technical data shall not, without the express written permission of the Contractor furnishing such technical data, be:

- a) Released or disclosed in whole or in part outside the Government of Canada;
- b) Used in whole or in part by the Government of Canada for manufacture; and
- c) Used by a party other than the Government of Canada, except for:
 - 1) Emergency repair or overhaul work only, by or for the Government of Canada, where the item or process concerned is not reasonably available to enable timely performance of the work, provided that the release or disclosure thereof outside the Government of Canada shall be made subject to the prohibition against further use, release or disclosure; and
 - 2) Release to other Governments, only for the information and evaluation within such Governments, or for such Governments under the conditions of (1) above.

Chapter 2 CONVERSION OF DRAWINGS

For each engineering drawing converted, the contractor shall provide soft copies in either raster (image) image or vector format.

2.1 RASTER FORMAT

Deliverables in raster format shall be prepared in Tagged Image File Format in accordance with Adobe Systems Inc. specification "TIFF Revision 6", compressed to CCITT Group 4. Files shall be UNTILED and be wholly raster (hybrid files shall not be delivered). Multi-sheet drawings shall be delivered one sheet per file. Especially long drawings, produced in continuous rolls in excess of an E-size length, shall be saved as single files unless otherwise agreed with the OPI. Specific attributes of raster files are as follows.

- Pel Density: Raster image pixel element (Pel) density shall be 200 dpi;
- Position of Pels: The position of Pels shall be as follows:
 - Portrait Data: line progression 270 degrees, Pel path 0 degrees
 - Landscape Data: line progression 270 degrees, Pel path 0 degrees;
- Image Sizes: Image sizes shall be as outlined in Table 2, below;
- Cropping: Images shall be cropped such that the engineering drawing is free of extraneous information;
- Skew Correction: Images shall be skew corrected to 0 degrees and 90 degrees;
- Despeckling: Images shall be despeckled. Contractor shall ensure that the integrity of the data is not compromised by this operation;
- Image Foreground / Background: Images shall be black on white background; and
- File Names: File names shall be requested in writing from the OPI.

Table 2 Drawing Sizes

METRIC DRAWING SIZES			
Drawing Size	W x L (max) (mm)	Pels Per Line	Number of Lines
A4	210 X 297	1656	2344
A3	297 X 420	2344	3312
A2	420 X 594	3312	4680
A1	594 X 841	4680	6624
A0	841 X 1189	6624	9368
B1	707 X 1000	5567	7875
NORTH AMERICAN / IMPERIAL DRAWING SIZES			
Drawing Size	W x L (max) (inches)	Pels Per Line	Number of Lines
A	8.5 x 11	1704	2200
B	11 x 17	2200	3400
C	17 x 22	3400	4400
D	22 x 34	4400	6800
E	34 x 44	6800	8800
F	28 x 40	5600	8000
G	11 x 90	2200	18000
H	28 x 143	5600	28600
J	34 x 176	6800	35200
K	40 x 143	8000	28600
Legal	8.5 x 14	1704	2800

2.2 VECTOR FORMAT

Deliverables in vector format shall be prepared as native AutoCAD files, version 2004 or later. The mono-detail drawing system shall be used. Multi-sheet drawings shall be delivered one sheet per file.

2.3 FOLDER AND FILE NAMES

Delivered files, whether image or text, shall be contained within a hierarchy of Folders and Files as described below and comparable to those displayed in Figures 1, 2 and 3, above.

- 1st Level Folder: The Folder Name shall be created using the name or identifying number of the CCG Asset to which the drawings pertain.
- 2nd Level Folder: The 2nd level Folder Name shall be created using the Drawing series number. Deliverable files will be contained in this folder.

2.4 META-DATA

For each raster or vector file forming part of a complete set of drawings, the meta-data defined in Table 3, below, shall be provided as a record in a comma-delimited ASCII text file. Record entries shall be separated by a "carriage return/hard return". All fields within a record, including those which are empty, shall be delimited by a "|" (pipe) symbol. The ASCII text file shall be named "metadata.txt".

Table 3 Meta-Data for Drawings

Order	Field Name	Max Field Length	Field Definition / Description	Example Entry
1	File name	12 (8+4)	Name of electronic file - unique filename for uploading in database. Blocks of suitable file names will be issued by the CCG ITS Branch, who may be contacted at Staff Officer Technical Data. Alpha characters shall be uppercase.	LZ000235.TIF
2	Drawing No.	25	This field will contain the drawing number	9775458
3	Revision	3	Letter or number indicating the revision level. If there is no rev, indicate with dash (“-”)	B
4	Sheet No. ____	8	Sheet number x of y. Enter the value of x.	1
5	Of ____	8	Sheet number x of y. Enter the value of y.	1
6	Units of Measure	10	Indication whether Metric or Imperial units are used.	METRIC
7	Size	29	This field contains the document size. – For imperial sizes use A, B, C, D, E, F, G, H, J, K and LE (for legal) – For metric sizes use A4, A3, A2, A1, A0 and B1.	A2
8	Additional identifier	10	This open field shall be used when a class-specific or project-specific identifier is required for data management purposes.	DCR 001
9	Document Title	240	Title of document. (i.e. Drawing title)	BRACKET ASSY
10	Document Sub-title	240	Sub-title of a document	PLAN VIEW

A sample meta-data record, in ASCII file format, is as follows:

LZ000235.TIF|9775458|B|1|1|METRIC|A2|DCR001|BRACKET ASSY|PLAN VIEW|

2.5 MEDIUM OF DELIVERY

The contractor shall provide the deliverable electronic files, whether image or text, on standard CD-R or DVD media. Files shall not be compressed or zipped other than as specified herein. The CD-R and DVD discs shall be clearly labelled with the Drawing (or Drawing series) number, Drawing (or Drawing series) title, contract number and task or requisition number.

2.6 DATA RIGHTS

Unless otherwise specified, the Government of Canada shall have rights in data as set out below.

2.6.1 Unlimited Rights (Foreground Data)

The Government of Canada shall have unlimited rights in all engineering drawings, associated lists and reference documents produced or provided during any CCG work. The Government of Canada shall have the right to use, translate into Canada's other official language, duplicate, revise or disclose such technical data, in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so.

2.6.2 Limited Rights (Background Data)

The Government of Canada shall have limited rights only and shall hold in confidence all existing engineering drawings, associated lists and reference documents supplied by a Contractor and bearing the Contractor's "Limited Proprietary Rights" restrictive legend. The Government of Canada shall have the right to use, translate, duplicate or disclose such technical data, in whole or in part, by or for the Government of Canada, with the express limitation that such technical data shall not, without the express written permission of the Contractor furnishing such technical data, be:

- a) Released or disclosed in whole or in part outside the Government of Canada;
- b) Used in whole or in part by the Government of Canada for manufacture; and
- c) Used by a party other than the Government of Canada, except for:
 - 1) Emergency repair or overhaul work only, by or for the Government of Canada, where the item or process concerned is not reasonably available to enable timely performance of the work, provided that the release or disclosure thereof outside the Government of Canada shall be made subject to the prohibition against further use, release or disclosure; and
 - 2) Release to other Governments, only for the information and evaluation within such Governments, or for such Governments under the conditions of (1) above.

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Annex A ABBREVIATIONS AND ACRONYMS

The following abbreviations and acronyms may be used in the conduct of the technical data conversion and other services.

ASCII	American Standard Code for Information Interchange
CA	Contract Authority or Configuration Audit
CAR	Configuration Audit Report
CCG	Canadian Coast Guard
CCGC	Canadian Coast Guard College
CCITT	International Telegraph and Telephone Consultative Committee
CD	Compact Disk
CD-ROM	Compact Disk –Read Only Memory
CI	Configuration Item
CM	Configuration Management or Corrective Maintenance
CSA	Configuration Status Accounting or Canada Shipping Act
DM	Document Management
DTA	Delegated Technical Authority
EC	Engineering Change
HOR	Hazardous Occurrence Report
IM	Information Management
IMO	International Maritime Organisation
ISO	International Standards Organisation
ITS	Integrated Technical Services
MAR	Monthly Activity Report
MIMS	Maintenance Information Management System – a CCG-customised asset management system based on Maximo [®] Version 4.
MLB	47' Motor Lifeboat
NCR	Non-Conformance Report
NSCM	NATO Supply Code for Manufacturers
PDF	Portable Document Format
Pel	Pixel element

Annex A

PM	Preventative Maintenance or Project Management
PMO	Project Management Office
PRM	Progress review Meeting
PWGSC	Public Works & Government Services Canada
QA	Quality Assurance
QSE	Quality System Evaluations
R&O	Repair and Overhaul
SOLAS	Safety of Life at Sea
SOW	Statement of Work
TA	Technical Authority
TDAN	Technical Data Action Number
TDP	Technical Data Package
TIFF	Tagged Image File Format
WBS	Work Breakdown Structure
WEAF	Work Estimate Action Form