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NSWCCD-80-TR-2014/043 **December 2014**

Naval Architecture and Engineering Department

Technical Report

S1000D Issue 4.0.1 Tagging and Authoring Guidelines for Standard NAVSEA Integrated Publishing Process

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REPORT DOCUMENTATION PAGE		Form Approved OMB No. 0704-0188

1. REPORT DATE *(DD-MM-YYYY)*	**2. REPORT TYPE**	**3. DATES COVERED** *(From - To)*
30-06-2014	Final	30-06-2014

4. TITLE AND SUBTITLE

S1000D Issue 4.0.1 Tagging and Authoring Guidelines for Standard NAVSEA Integrated Publishing Process

5a. CONTRACT NUMBER

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)

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5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER
N0002413WX07048, N0002414WX06090

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) AND ADDRESS(ES)

NAVAL SURFACE WARFARE CENTER
CARDEROCK DIVISION (CODE 821)
9500 MACARTHUR BOULEVARD
WEST BETHESDA, MD 20817-5700

8. PERFORMING ORGANIZATION REPORT NUMBER

NSWCCD-80-TR-2014/043

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

COMMANDER
NAVAL SEA SYSTEMS COMMAND
ATTN: SEA
1333 ISAAC HULL AVE SE
WAHINGTON NAVY YARD DC 20376

10. SPONSOR/MONITOR'S ACRONYM(S)
NAVSUP N00AL

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION / AVAILABILITY STATEMENT

Distribution Statement A: Approved for public release; distribution is unlimited.

13. SUPPLEMENTARY NOTES
N/A

14. ABSTRACT
The purpose of the S1000D Issue 4.0.1 Tagging and Authoring Guidelines for Standard NAVSEA Integrated Publishing Process (SNIPP) is to provide guidance in the development and sustainment of technical manuals compliant with MIL-DTL-24784C content requirements using the S1000D Issue 4.0.1 specification structure and organization. Appendix A provides technical manual authors with schema organization and structure. The element and attribute tables allow quick reference to tagging instructions within S1000D and authoring instructions contained in Appendix B for S1000D SNIPP-compliant technical manuals. The guidance, actions, and processes described herein augment other TM development requirements such as the NAVSEA Technical Manual Management Program (TMMP) (NAVSEAINST 4160.3), and Technical Manual Contract Requirements (TMCRs), which continue to apply for any NAVSEA S1000D TM development.

15. SUBJECT TERMS

Tagging and Authoring, S1000D Issue 4.0.1, Standard NAVSEA Integrated Publishing Process, SNIPP

16. SECURITY CLASSIFICATION OF:			**17. LIMITATION OF ABSTRACT**	**18. NUMBER OF PAGES**	**19a. NAME OF RESPONSIBLE PERSON**
a. REPORT	**b. ABSTRACT**	**c. THIS PAGE**			E. Lori Westbrook (NSWCCD);
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	**SAR**	**135**	**19b. TELEPHONE NUMBER** ***(include area code)*** 301-227-3346

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Administrative Information

The Technical Information Systems Branch (Code 8210) of the Future Concepts & Design Integration Process Division (Code 82) of the Naval Architecture and Engineering Department (Code 80) at the Naval Surface Warfare Center, Carderock Division (NSWCCD), wrote this report. The work was funded by the NAVAL SUPPLY SYSTEMS COMMAND under work order numbers N0002413WX07048 and N0002414WX06090.

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1. Introduction

The international specification S1000D was introduced to the United States Department of Defense (DoD) community to improve data interchange and increase interoperability during joint military operations. S1000D improves standardization across product lines by developing one set of documentation that can be delivered in multiple formats to support various product configurations. S1000D defines a documented approach to developing and maintaining technical documentation through ancillary requirements that accompany the specification. The use of such documented ancillary requirements as business rules and common content information sets allow the life cycle processes of technical data to follow a well-defined path. Other requirements, such as the development of technical data at a lower granularity, called data modules (DM), and the storage of these modules in a Common Source Database (CSDB), support requirements to provide different-variant manuals from the same set of data.

The purpose of the S1000D Issue 4.0.1 Tagging and Authoring Guidelines for Standard NAVSEA Integrated Publishing Process (SNIPP) is to provide guidance in the development and sustainment of technical manuals compliant with MIL-DTL-24784C content requirements using the S1000D Issue 4.0.1 specification structure and organization. Appendix A provides technical manual authors with schema organization and structure. The element and attribute tables allow quick reference to tagging instructions within S1000D and authoring instructions contained in Appendix B for S1000D SNIPP-compliant technical manuals. The guidance, actions, and processes described herein augment other TM development requirements such as the NAVSEA Technical Manual Management Program (TMMP) (NAVSEAINST 4160.3), and Technical Manual Contract Requirements (TMCRs), which continue to apply for any NAVSEA S1000D TM development.

Before using this guidance, technical report *Procedures for the Acquisition and Development of NAVSEA TMS/IETMS in accordance with International Specification S1000D* (NSWCCD-20-TR–2011/06) should be reviewed as it establishes uniform guidelines and practices for NAVSEA Activities and Programs with regard to the implementation of S1000D and is a companion document to the TMMP. The report provides an overview of the S1000D specification, key components of S1000D implementations, and is organized to reflect the four phases of a TM's life cycle: Definition, Development, Distribution, and Disposal, as addressed by the TMMP.

1.1. SNIPP

The Standard NAVSEA Integrated Publishing Process (SNIPP) provides an S1000D process lane for developing and sustaining technical manuals. The NAVSEA Data Content Management System (CMS) and NAVSEA Publishing Application (NPA) include the S1000D Common Source Database software, as well as, the publishing software for producing technical manuals for printing and electronic display. NAVSEAINST 4160.3 establishes SNIPP under the cognizance of NAVSUP N00AL2 for the acquisition, development, maintenance, data storage, and distribution of NAVSEA TM source data and presentation files. The TMMP states NAVSEA TMs shall be acquired, developed, and distributed through this process with the current components consisting of: Technical Data Management Information System (TDMIS), Streamlined Modular Acquisition Requirements Tailoring Tool (SMART-T), Naval Engineering Technical Library (NETL), Data CMS and NPA, Technical Data Knowledge Management (TDKM), and Advanced Technical Information Support System (ATIS). Using SNIPP assures proper integration of TM life cycle development and distribution within the Navy infrastructure.

1.2. S1000D/MIL-DTL-24784C

In the development of NAVSEA technical manuals, developers will utilize S1000D's organization and documented approach through the specification's ancillary requirements. MIL-DTL-24784C is utilized as NAVSEA's authoritative source for the development of the ancillary documents for business rules and content information sets. In the development of the ancillary requirements and Technical Manual Contract Requirements (TMCRs)/Technical Manual SEATASK Requirements (TMSRs), conflicts between S1000D and MIL-DTL-24784C requirements were resolved by Naval Surface Warfare Center Carderock Division (NSWCCD), Naval Systems Distance Support Activity (NSDSA), and the NAVSEA S1000D Configuration Control Board with representatives from the NAVSEA Programs working S1000D projects. NAVSEA S1000D ancillary documents and tools can be found at the NSWCCD website (http://www.navsea.navy.mil/nswc/carderock/tecinfsys/s1000d/index.html).

S1000D covers the planning and management, production, exchange, distribution, and use of technical documentation that support the life cycle of the project. The specification adopts International Standards Organization (ISO), Continuous Acquisition and Life-cycle Support (CALS) and World Wide Web Consortium (W3C) standards, in which information is generated in a neutral format. Information produced is created in a modular form, called a "data module". A data module is defined as "the smallest self-contained information unit within a technical publication".[1]

MIL-DTL-24784C establishes the general acquisition and development requirements needed to prepare digital technical information for multi-output presentation of NAVSEA technical manuals. The technical content and style and format requirements are used to develop and assemble complete TMs for ships, shipboard systems, and equipment. The requirements apply to the output of paper technical manuals or to the display of page-oriented linear and non-linear Interactive Electronic Technical Manuals (IETMs). Technical manuals developed in accordance with this specification are intended for use in the installation, operation, maintenance, repair, personnel training and logistics support of weapon systems and equipment or for accomplishment of assigned missions.[2]

[1]S1000D, Issue 4.0.1, Chapter 1.2, Paragraph 2

[2]MIL-DTL-24784C, Paragraphs 1.1 and 6.1.

2. Conventions Used In This Document

- Non-empty XML element names within the text are presented in `Courier New` font and between < and > characters preceded by the word element (e.g., element `<para>`).
- XML empty element names within the text are presented in `Courier New` font between the < and /> delimiters (e.g., `<unverified/>`).
- Element attribute names within the text are presented in `Courier New` font and enclosed by single quotes (e.g., `'securityClassification'`).
- Values for attributes within the text are presented in `Courier New` font and enclosed between double quotes (e.g., `securityClassification="01"`).
- Tagging examples are indented and are presented in `Courier New` font.
  Examples:

```
<language languageIsoCode="sx" countryIsoCode="US"/>
<language languageIsoCode="de" countryIsoCode="AT"/>
<reasonForUpdate id="rfu-001" updateHighlight="1"
updateReasonType="urt02"><simplePara>The tool set is
changed.</simplePara></reasonForUpdate>
```

- Elements and attributes that are mandatory within S1000D or are mandatory for NAVSEA are denoted with (M). Elements and attributes that are optional are denoted with (O).

3. Feedback Reporting

Beneficial comments and any pertinent data which may be of use in improving this document should be reported via email to nswccd.code20web@navy.mil or in hardcopy addressed to:

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Appendix A S1000D Schema Set SNIPP Tagging Guidelines for Technical Manuals

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A.1. Scope

This document provides technical manual authors with schema organization and structure along with element and attribute tables for quick reference to tagging instructions in S1000D and authoring instructions in Appendix B for S1000D SNIPP-compliant technical manuals.

The guidance in tagging basic constructs is as defined in the S1000D XML Schema Sets for Issues 4.0.1 and later and as specified in the applicable Technical Manual Contract Requirement (TMCR) or Technical Manual SEATASK Requirement (TMSR). The TMCR/TMSR requirements are based on tailored requirements originating from the Detail Specification MIL-DTL-24784C and International Specification S1000D. These guidelines apply to the development of page-based (linear) TMs as well as frame-based (non-linear) Interactive Electronic TMs (IETMs). Unless otherwise specified in these tagging guidelines, the term "IETM" is used to denote both page and frame based TMs. Users are cautioned that they must review and comply with specified requirement documents cited in the TMCR/TMSR. These tagging guidelines are in no way a substitute for the TMCR/TMSR. In addition, these guidelines assume the user has a working knowledge of tagging XML data.

If maintaining manuals written using S1000D XML DTDs for Issues 3.0 and earlier, this guidance will provide limited assistance. Users will need to determine the detailed relationships between the different elements and attributes by comparing the earlier issue to Issue 4.0.1. Updating XML instances to schemas Issue 4.0.1 and later are not necessary because the NAVSEA toolsets are compatible with Issue 2.2 forward.

The guide will cover the following schemas:

- pm.xsd
- descript.xsd
- proced.xsd
- crew.xsd
- fault.xsd
- ipd.xsd
- checklist.xsd
- dml.xsd
- process.xsd
- appliccrossreftable.xsd
- condcrossreftable.xsd
- prdcrossreftable.xsd
- notations.xsd
- brex.xsd
- container.xsd
- ddn.xsd
- xlink.xsd

These schemas will not be covered: learning.xsd, scormcontentpackage.xsd, wrngdata.xsd, wrngflds.xsd, dc.xsd, rdf.xsd, schedul.xsd, techrep.xsd, comment.xsd, process.xsd, and xcf.xsd.

A.2. General

A characteristic of S1000D is that it outlines an open systems approach to the production of technical publications. The specification does not take into account any specific tool or other proprietary solution. It is important to recognize that system and tool independence is a necessity for interoperability across distributed S1000D implementations.

The S1000D XML schemas must be used as supplied and shall not be modified or changed by a Program or Project. However, a Program or Project can configure various attribute values within the schemas following the guidelines defined within S1000D, NAVSEA business rules, and TMCR/TMSR. The S1000D formal change process detailed in the specification provides a mechanism to request schema and other S1000D changes using a Change Proposal Form (CPF). All CPFs from NAVSEA shall be provided to NSWC Carderock for review and submittal. The CPF will then be vetted through the international committees for concensus approval into a future Issue of the specification or denial.

A.3. Introduction

S1000D was completely revised in August 2008 with Issue 4.0. The revision renamed elements and attributes, enhanced some schema structures, and included numerous other updates resulting from the adoption of new policies for maintaining quality and consistency in the schemas. The revision no longer supported Standard Generalized Markup Language (SGML) and SGML/XML DTDs. Issue 4.0 is not backward compatible with Issue 3.0 and earlier but third-party translation tools have been developed. NAVSEA Programs do not need to convert earlier Issues because NAVSEA toolsets support all versions from 4.0.1 backwards to Issue 2.2 and will support newer versions as toolsets become updated.

The S1000D schemas were revised with the following objectives:

1) Modular form. The master schemas have a modular form that provides a good basis for simple and safe maintenance of the schemas by the schema developers and maintainers.
2) Compliance with standards. The prime structure of the schemas reflects the S1000D specification and complies with W3C recommendations.
3) Versatile implementation formats. The modular master schemas enable schema developers and maintainers to perform simple automatic generation of the data module structures into flattened schemas for use by technical manual authors.
4) Backward compatibility. Subsequent versions of the schemas are backwardly compatibile with the initial schemas as much as possible.

The schemas are highly modularized into several parts where each part defines objects of a certain type (e.g. "complexType" schema objects) where each schema fragment is focused on its specific characteristics and substructures. The application schema, representing specific types of data modules (e.g. descriptive, procedural), is then composed by invocation of a suitable selection of the parts. This variant of the schema package is usually referred to as the "modularized XML Schema package" and is the master used by the S1000D schema developers and maintainers for maintenance and development of the S1000D technical base.

In addition to the modularized package there is also a package of non-modular, flattened Schemas, where each application schema file contains most needed objects reused from the modular form (exceptions are xlink, rdf and dc fragments, refer to S1000D, Issue 4.0.1, Chapter 7.3). This flattened schema package is generated from the modular package and is used by authors to tag documents.

The S1000D schemas for data modules also consist of entities which are specific to a type of data module as specified in S1000D, Issue 4.0.1, Chapter 3.9.5.2. An entity is a character string which, in the final data module output, will be replaced by a character, symbol or an external file. Many content management systems manage entities separately from the Authoring Tool in which case the tool within the content management system is probably auto-generating the entity file names for the author. The author needs to be aware of the available entities that such a tool has created so that the author can insert these entities within their source XML. This will require an initial connection to the CMS prior to authoring (to download the names of the entities) by the authoring tool.

NAVSEA S1000D technical manual developers should understand the relationships between the technical manual (e.g. data module and publication module), information sets, and schemas. The information sets define the technical manual's content requirements and basic content organizational layout. NAVSEA's information sets were derived from MIL-DTL-24784C. The S1000D schema describes the structure of the technical manual and controls which elements can appear in an XML instance and in which order. The schema also defines the rules for attributes and entities and provides data type constraints which describe valid units of data.

A.3.1. Technical Manuals

Technical manuals are developed using many data modules to cover the technical manual's defined content scope and depth. An author reviews the content requirements through information sets and determines both how the information will be presented (e.g. descriptive, procedural, troubleshooting, illustrated parts breakdown) and the number of data modules needed for the technical manual. In many cases, the information set will provide the schema type(s).

For NAVSEA, all technical manuals will start with a publication module using the pm.xsd schema. The minimum schemas needed to develop a descriptive only TM would be the primary publication module schema (pm.xsd), one or more descriptive data modules (descript.xsd) and other pm.xsd schema, the data module requirement's list (DMRL DID), and a BREX schema (brex.xsd), if the BREX schema is not already available.

A data module (DM) is a stand alone information unit comprising of descriptive, procedural, operational data for a material or a component. The unit is produced in such a form that it could be stored anywhere and retrieved from a Common Source DataBase by the data module code as the identifier. DMs are produced in XML according to specific schema. DM schemas are divided into the Identification and Status section and the Content section. Refer to the Tables A-2 and A-3 and Appendix B for instructions on how the specific elements and attributes are to be tagged.

A.3.2. Information Sets

An information set defines the detailed depth and breadth of the content requirements that must be covered in a data module, set of data modules, or publication. The detailed content requirements attempt to ensure that consistent, adequate coverage is delivered to operators and maintainers performing their duties. For NAVSEA, 25 information sets were developed to cover the content of the 11 technical manuals defined within MIL-DTL-24784C. The NAVSEA information sets aid in the discovery of reusable DMs by content developers and the creation of reliable searches for end users.

The NAVSEA S1000D information sets define the recommended S1000D information codes matched to the content requirements extracted from MIL-DTL-24784C. For each content requirement, a recommended schema and info code or codes are provided to prepare the data module. The recommended schema is based on how MIL-DTL-24784C defines the content requirement to identify with one of the S1000D schemas (e.g. descriptive, procedural (with steps). The info code recommendations are a best match based on an analysis and comparison of MIL-DTL-24784C content requirements and the long definition of S1000D info codes. Where conflicts exist between the content requirement and the long definition, the content requirement takes precedence.

A.3.3. Schemas

Table A-1 provides a list of schemas used in NAVSEA technical manuals. The table provides the schema name, schema file name, schema description or purpose, and the S1000D chapter reference. The schemas are listed in order by probably use.

A.3.3.1. Elements and Attributes

Tables A-2 and A-3 contain all the elements and attributes for specific schemas, along with their reference to an S1000D Chapter and Appendix B paragraph. The tables also provide a view of which elements and attributes are common to specific schemas. There are many references available within S1000D for each element and attribute. The single reference selected was either the first reference with a definition, the most logical reference for its use (e.g. elements for Identification and Status section of a DM), or the schema chapter where the element or attribute was only in one schema. Appendix B will cover the major elements and attributes but not all.

Table A-2 contains all the elements and attributes for schemas: pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd. Table A-3 contains all elements and attributes for schemas: appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd.

Note: The dml.xsd elements are provided for informational purposes; however, for NAVSEA Programs, the DMRL spreadsheet shall be created per DID: DI-TMSS-81805, S1000D Data Module Requirements List.

A.3.3.2. S1000D Data Dictionary

The complete S1000D schema documentation from www.s1000d.org is downloadable for easy use offline. The documentation can be searched for elements in a specific schema or just for an element. The following information can be found:

- **element** gives the name of an element within the start-tag delimiters (as it would be used within the data module instance)
- **group** gives the name of an element group (element groups do not appear within a data module instance)
- **complexType** gives the name of a complex type (complex types are used for schema management and do not appear within a data module instance)
- **simpleType** gives the name of a simple type (simple types are used for schema management and do not appear within a data module instance)
- **attributeGroup** gives the name of an attribute group (attribute groups do not appear within a data module instance)
- **diagram** gives a graphical representation of the content of an element, group, complexType, simpleType, or attributeGroup using symbols as defined in S1000D Chapter 3.9.5
- **namespace** gives the namespace of an element, simpleType, or attributeGroup which is defined outside of the S1000D namespace
- **type** gives whether an element is a simpleType or complexType
- **properties** gives information about the element, simpleType or complexType such as whether mixed content is allowed, the base type, and whether simple or complex content is allowed
- **children** gives the list of elements contained by this element, group, or complexType
- **used by** gives the list of elements, groups, complexTypes and attributes containing this element, group, complexType, simpleType, or attributeGroup
- **attributes** gives the list of attributes contained by this element further divided into the following fields:
    - **Name** gives the name of the attribute

- **Type** gives the simpleType of the attribute
- **Use** gives the cardinality of the attribute
  - **No value** indicates the attribute is optional
  - **required** indicates the attribute is required
- **Default** gives a default value for the attribute which can be overridden
- **Fixed** gives a value for the attribute which can not be overridden
- **Annotation** is not used

- **facets** gives any restrictions on the content of an element or simpleType expressed as a pattern of allowable values
- **source** gives the schema fragment defining this element, group, complexType, simpleType, or attributeGroup

Table A-1 List of NAVSEA Covered Schemas			
Schema Name	**Schema File Name**	**Description/Purpose**	**S1000D Chapter Reference**
Publication Module	pm.xsd	Publication Module Schema is utilized to bundle other PMs and data modules for a common theme (e.g. technical manual). The publication module defines the content through its structure and references to data modules, other publication modules, or legacy data. A set of data modules, which have been arranged to make a publication, checklist, guide, catalogue, etc on a particular subject, irrespective of the media of presentation (e.g. paper or screen). The PM schema uses the publication module code as the identifier.	Chapter 4.9.2
Descriptive DM	descript.xsd	A descriptive DM provides the narrative structure for a TM and captures and represents descriptive information. The granularity of descriptive data modules must follow the breakdown reflected by the SNS providing descriptions at system, subsystem, and sub-subsystem levels as required by the maintenance philosophy and scope of information required.	Chapter 3.9.5.2.2
Procedure DM	proced.xsd	A procedural DM provides the procedural steps in a TM by capturing and representing procedural information. The granularity of maintenance procedural data modules is to follow the breakdown reflected by the SNS, the information codes and should reflect the tasks identified in the maintenance plan. The granularity of crew/operator procedural data modules is to follow the breakdown reflected by the SNS, information codes and should reflect the operation identified.	Chapter 3.9.5.2.3

Table A-1 List of NAVSEA Covered Schemas			
Schema Name	**Schema File Name**	**Description/Purpose**	**S1000D Chapter Reference**
Fault DM	fault.xsd	A fault DM contains the fault isolation and troubleshooting part of a TM and is used to capture and represent fault reporting, fault isolation and fault correlation information. The granularity of these data modules is to follow the breakdown reflected by the SNS. The fault isolation Schema allows for five types of fault information to be produced as individual data modules. These are fault reporting (in terms of isolated, detected, observed or correlated faults) or fault isolation.	Chapter 3.9.5.2.4
Crew DM	crew.xsd	A crew DM is a narrative structure for crew level TMs such as a system or operator manual to capture and represent information to be used by crew/operators. The granularity of crew data modules is to follow the breakdown reflected by the SNS.	Chapter 3.9.5.2.6
IPD DM	ipd.xsd	The illustrated parts data (IPD) DM provides parts in illustrated breakdown and their associated parts listed. It is also called illustrated parts breakdown or Group Assembly Parts List (GAPL). The IPD DM is to be used to capture and represent parts lists and IPD. This information can be drawn from S2000M provisioning database or from engineering data for non-S2000M projects.	Chapter 3.9.5.2.7
Checklist DM	checklist.xsd	A checklist DM can be used when procedural tasks must be presented as a check list. The checklist DM is robust enough that it can accommodate many forms of checklist data. It can be used for items such as checking unpacked equipment conditions, and criteria for special Inspections.	Chapter 3.9.5.2.14

Table A-1 List of NAVSEA Covered Schemas			
Schema Name	**Schema File Name**	**Description/Purpose**	**S1000D Chapter Reference**
DM Requirements List	dml.xsd	A DM requirements list (DMRL) is created utilizing the dml schema or a spreadsheet. Some CSDBs are allowing spreadsheets for loading the DMRL. For NAVSEA Programs, the DMRL spreadsheet shall be created per DID: DI-TMSS-81805, S1000D Data Module Requirements List. The DMRL is used to identify the required data modules for a project and supports planning, reporting, production and configuration control, especially in a work share environment. A DMRL can be generated in parts (e.g. by partner companies for later merging) or in a complete form. A dml schema contains the following elements: <identAndStatusSection> and <dmlContent>.	Chapter 4.5.1

Table A-1 List of NAVSEA Covered Schemas			
Schema Name	**Schema File Name**	**Description/Purpose**	**S1000D Chapter Reference**
Process DM	process.xsd	The process data module contains interactive processing structures to provide the capability to sequence other data modules or steps within it based on static or dynamic state information. The process data module can be of any type: procedural, fault, descriptive, etc. Its content can include preliminary and closing requirements. The process data module is useful to achieve capabilities of the Functionality Matrix in categories of (1) diagnostics (particularly dynamic diagnostics, or system simulation), (2) external processes where data is captured in the IETM and transmitted to the external process or vice versa, and (3) navigation and tracking in areas of filtering (only displaying to the user data that applies to him) and dialog-driven interaction. Sequencing, based on state information, together with management of dynamic and static state information are required capabilities to achieve intelligent, interactive data display. Sequencing is accomplished by a software component called the logic engine.	Chapter 3.9.5.2.10

Table A-1 List of NAVSEA Covered Schemas			
Schema Name	**Schema File Name**	**Description/Purpose**	**S1000D Chapter Reference**
Applicability cross reference DM	appliccrossref table.xsd	The Applicability Cross-reference Table (ACT) data module is used to declare product attributes. A product attribute is a property of the Product that has an effect on the applicability of technical data. Product attributes are properties of the Product that are typically set at the time of manufacture of a product instance and will usually not change throughout the service life of a product instance. Examples of product attributes are model, series, and serial number. The ACT data module serves as the central point of reference for applicability declarations. It provides references to the Conditions Cross-reference Table (CCT) and Products Cross-reference Table (PCT) data modules. By referencing the ACT data module in the status section, all other data modules will be able to access all declarations of product attributes and conditions as well as actual values for product instances.	Chapter 3.9.5.3.1

Table A-1 List of NAVSEA Covered Schemas			
Schema Name	**Schema File Name**	**Description/Purpose**	**S1000D Chapter Reference**
Conditions cross reference DM	condcrossreftable.xsd	The Conditions Cross-reference Table (CCT) data module is used to declare any condition that can affect applicability of data. Conditions can be technical, operational, environmental, or any other type that can affect technical data. Technical conditions are typically tied to the configuration of the Product, such as service bulletins or modifications. The state of technical conditions can change throughout the service life of a product instance. Examples of operational and environmental conditions are location of maintenance, availability of tools, regulatory rules, temperature, wind speed and sandy conditions. The CCT data module is divided into three sections; a definition of common types of conditions, a definition of specific conditions, and an optional incorporation status list for technical conditions.	Chapter 3.9.5.3.2
Product cross reference DM	prdcrossreftable.xsd	The Products Cross-reference Table (PCT) data module is a repository for defining product instances and associating values to product attributes and conditions for each product instance. A product instance is an actual physical product, for example a Brook trekker Mk9 bicycle with serial number 1B070643.	Chapter 3.9.5.3.3
Notations	notations.xsd	A notations schema describes the format of non-XML data within an XML document and is not authorable. This schema works with the attribute 'infoEntityIdent' in graphics and multimedia elements.	Chapter 7.3.3

Table A-1 List of NAVSEA Covered Schemas			
Schema Name	**Schema File Name**	**Description/Purpose**	**S1000D Chapter Reference**
Business Rules Exchange (BREX) DM	brex.xsd	The BREX DM module provides a structure for standardized formal exchange and unambiguous definition of the business rules adopted by a project or an organization implementing the specification.	Chapter 4.10
Container DM	container.xsd	The container data module provides a mechanism to associate several alternate data modules representing the same data.	Chapter 3.9.5.2.12
Data Dispatch Note (DDN)	ddn.xsd	An S1000D file based transfer package consists of one DDN text file, marked up with XML, and at least one file out of the data categories given in Chap 4.8. The DDN defines sender, receiver and content of the dispatch. A data delivery list (DDL) is optionally included in the data dispatch note which lists all file names of the dispatched data together with their control numbers and issue numbers as additional options.	Chapter 4.8, Chapter 7.5
XLINK	xlink.xsd	An XLink provides a powerful linking mechanism for XML documents. For the purpose of location independence all XLink references used in this specification should use the URN form of URI.	Chapter 7.7.4

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	accessPointRef	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X	X	X	X
element	acronym	Chap 3.9.5.2.1.10	B.6.1.	X	X	X	X	X	X	X	X	X
element	acronymDefinition	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	acronymTerm	Chap 3.9.5.2.1.10	B.6.1.	X	X	X	X	X	X	X	X	X
element	action	Chap 3.9.5.2.4	N/A					X				
element	additionalModification	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	applic	Chap 3.9.5.3	B.2.7.3.2.	X	X	X	X	X	X	X	X	X
element	applicabilitySegment	Chap 3.9.5.2.7	N/A			X						
element	applicCrossRefTableRef	Chap 3.9.5.1	B.2.7.6.1.1.	X	X	X	X	X	X	X	X	X
element	assert	Chap 3.9.5.3	B.2.7.3.4.	X	X	X	X	X	X	X	X	X
element	assertion	Chap 3.9.5.2.10	N/A							X	X	
element	assocWarningMalfunction	Chap 3.9.5.2.4	N/A					X				
element	attachStoreShipPart	Chap 3.9.5.2.7	N/A			X						
element	attentionListItemPara	Chap 3.9.3	N/A	X	X	X	X	X	X	X	X	X
element	attentionRandomList	Chap 3.9.3	B.7.9.2.	X	X	X	X	X	X	X	X	X
element	attentionRandomListItem	Chap 3.9.3	N/A	X	X	X	X	X	X	X	X	X
element	attentionSequentialList	Chap 3.9.3	B.7.9.1.	X	X	X	X	X	X	X	X	X
element	attentionSequentialListItem	Chap 3.9.3	N/A	X	X	X	X	X	X	X	X	X
element	authorityExceptions	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	authorityInfo	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	authorityInfoAndTp	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	authorityNotes	Chap 3.9.5.1	B.4.2.2.		X	X	X	X	X	X	X	X
element	basicCorrelatedFaults	Chap 3.9.5.2.4	Table B-15					X				
element	behavior	Chap 3.9.5.2.1.2	B.7.10.2.	X	X	X	X	X	X	X	X	X

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	bitMessage	Chap 3.9.5.2.4	N/A					X				
element	booleanFunction	Chap 3.9.5.2.10	N/A							X	X	
element	booleanOperator	Chap 3.9.5.2.10	N/A							X	X	
element	booleanValue	Chap 3.9.5.2.10	N/A							X	X	
element	brexDmRef	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	calibrationMarker	Chap 3.9.5.2.7	B.7.6.2.4.5.			X						
element	caption	Chap 3.9.5.2.1.4	N/A	X	X		X	X	X	X	X	X
element	captionBody	Chap 3.9.5.2.1.4	N/A	x	x			x	x	x		x
element	captionEntry	Chap 3.9.5.2.1.4	N/A	X	X			X	X	X		X
element	captionGroup	Chap 3.9.5.2.1.4	N/A	X	X			X	X	X		X
element	captionLine	Chap 3.9.5.2.1.4	N/A	X	X		X	X	X	X	X	X
element	captionRow	Chap 3.9.5.2.1.4	N/A	X	X			X	X	X		X
element	captionText	Chap 3.9.5.2.1.4	N/A	X	X			X	X	X		X
element	case	Chap 3.9.5.2.6	N/A						X		X	
element	caseCond	Chap 3.9.5.2.6	N/A						X		X	
element	catalogSeqNumber	Chap 3.9.5.2.7	7.6.2.1.			X						
element	catalogSeqNumberRef	Chap 3.9.5.2.7	N/A		X	X	X	X	X	X	X	
element	categoryOneContainerLocation	Chap 3.9.5.2.7	N/A			X						
element	caution	Chap 3.9.3	B.7.11.3.		X		X	X	X	X	X	
element	challenge	Chap 3.9.5.2.6	N/A						X		X	
element	challengeAndResponse	Chap 3.9.5.2.6	N/A						X		X	
element	changeAuthorityNumber	Chap 3.9.5.2.7	N/A			X						
element	changeInline	Chap 3.9.5.2.1.1	B.2.6.2.	X	X	X	X	X	X	X	X	X
element	checkList	Chap 3.9.5.2.14	N/A							X		
element	checkListInfo	Chap 3.9.5.2.14	N/A							X		
element	checkListInterval	Chap 3.9.5.2.14	N/A							X		

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	checkListIntervals	Chap 3.9.5.2.14	N/A							X		
element	checkListItem	Chap 3.9.5.2.14	N/A							X		
element	checkListItems	Chap 3.9.5.2.14	N/A							X		
element	checkListPara	Chap 3.9.5.2.14	N/A							X		
element	checkListProcedure	Chap 3.9.5.2.14	N/A							X		
element	checkListStep	Chap 3.9.5.2.14	B.7.4.							X		
element	choice	Chap 3.9.5.2.4	N/A					X				
element	circuitBreakerDescr	Chap 3.9.5.2.1.9	N/A		X		X	X		X	X	
element	circuitBreakerDescrGroup	Chap 3.9.5.2.1.9	N/A		X		X	X		X	X	
element	circuitBreakerDescrSubGroup	Chap 3.9.5.2.1.9	N/A		X		X	X		X	X	
element	circuitBreakerLocation	Chap 3.9.5.2.1.9	N/A		X		X	X		X	X	
element	circuitBreakerRef	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X	X	X	X
element	closeRqmts	Chap 3.9.5.2.1.9	B.7.5.				X	X			X	
element	colspec	Chap 3.9.5.2.1.6	B.7.7.2.5.	X	X		X	X	X	X	X	X
element	commonInfo	Chap 3.9.5.2.1.12	N/A				X	X		X	X	
element	commonInfoDescrPara	Chap 3.9.5.2.1.12	N/A				X	X		X	X	
element	container	Chap 3.9.5.2.12	N/A									X
element	content	Chap 3.9.5.2	N/A	X	X	X	X	X	X	X	X	X
element	contextAndIsolationInfo	Chap 3.9.5.2.4	Table B-14					X				
element	controlIndicatorRef	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	copyright	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	copyrightPara	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	correlatedFault	Chap 3.9.5.2.4	B.7.12.1.4.					X				
element	crew	Chap 3.9.5.2.6	N/A						X			
element	crewDrill	Chap 3.9.5.2.6	N/A						X		X	

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	crewDrillStep	Chap 3.9.5.2.6	B.7.4.						X		X	
element	crewMember	Chap 3.9.5.2.6	N/A						X		X	
element	crewMemberGroup	Chap 3.9.5.2.6	N/A						X		X	
element	crewProcedureName	Chap 3.9.5.2.6	N/A						X		X	
element	crewRefCard	Chap 3.9.5.2.6	N/A						X			
element	dataConds	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	dataDestruction	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	dataDisclosure	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	dataDistribution	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	dataHandling	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	dataRestrictions	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	default	Chap 3.9.5.2.10	N/A								X	
element	definitionList	Chap 3.9.5.2.1.3	B.7.9.3.	X	X	X	X	X	X	X	X	X
element	definitionListHeader	Chap 3.9.5.2.1.3	B.7.9.3.	X	X	X	X	X	X	X	X	X
element	definitionListItem	Chap 3.9.5.2.1.3	N/A	X	X	X	X	X	X	X	X	X
element	definitionTitle	Chap 3.9.5.2.1.3	B.7.9.3.	X	X	X	X	X	X	X	X	X
element	descr	Chap 3.9.5.2.4	B.2.7.6.1.6. B.2.7.6.2.5.					X				
element	descrCrew	Chap 3.9.5.2.6	N/A						X			
element	descrForItem	Chap 3.9.5.2.7	B.7.6.2.4.2.			X						
element	descrForLocation	Chap 3.9.5.2.7	B.7.6.2.4.3.			X						
element	descrForPart	Chap 3.9.5.2.7	B.7.6.2.4.1.			X						
element	description	Chap 3.9.5.2.2	N/A		X							
element	detailedFaultDescr	Chap 3.9.5.2.4	N/A					X				
element	detectedFault	Chap 3.9.5.2.4	B.7.12.1.2.					X				
element	detectedLruItem	Chap 3.9.5.2.4	N/A					X				
element	detectedSruItem	Chap 3.9.5.2.4	N/A					X				

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	detectionInfo	Chap 3.9.5.2.4	Table B-12 Table B-13					X				
element	diagnosticProcess	Chap 3.9.5.2.4	N/A					X				
element	diagnosticsReason	Chap 3.9.5.2.4	N/A					X				
element	dialog	Chap 3.9.5.2.10	N/A								X	
element	dialogAlt	Chap 3.9.5.2.10	N/A								X	
element	dialogGroup	Chap 3.9.5.2.10	N/A								X	
element	displayText	Chap 3.9.5.3	B.2.7.3.3.	X	X	X	X	X	X	X	X	X
element	dmAddress	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	dmAddressItems	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	dmCode	Chap 3.9.5.1	B.4.2.1.	X	X	X	X	X	X	X	X	X
element	dmElseSeq	Chap 3.9.5.2.10	N/A								X	
element	dmIdent	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	dmIf	Chap 3.9.5.2.10	N/A								X	
element	dmLoop	Chap 3.9.5.2.10	N/A								X	
element	dmNode	Chap 3.9.5.2.10	N/A								X	
element	dmNodeAlt	Chap 3.9.5.2.10	N/A								X	
element	dmodule	Chap 3.2 / Chap 3.9.5	N/A		X	X	X	X	X	X	X	X
element	dmRef	Chap 3.9.5.2.1.2	B.7.10.2.	X	X	X	X	X	X	X	X	X
element	dmRefAddressItems	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	dmRefIdent	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	dmSeq	Chap 3.9.5.2.10	N/A								X	
element	dmStatus	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	dmThenSeq	Chap 3.9.5.2.10	N/A								X	
element	dmTitle	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	effectivity	Chap 3.9.5.2.7	N/A			X						

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	elseIf	Chap 3.9.5.2.6	N/A						X		X	
element	emphasis	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	enabledState	Chap 3.9.5.2.10	N/A								X	
element	endMatter	Chap 3.9.5.2.6	N/A						X		X	
element	enterpriseName	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	entry	Chap 3.9.5.2.1.6	B.7.7.2.4.		X		X	X	X	X	X	
element	equip	Chap 3.9.5.2.14	N/A							X		
element	equipmentNotAvailable	Chap 3.9.5.2.14	N/A							X		
element	estimatedTime	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	evaluate	Chap 3.9.5.3	B.2.7.3.5.	X	X	X	X	X	X	X	X	X
element	excludedModification	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	exportControl	Chap 3.9.5.1.1	Table B-1	X	X	X	X	X	X	X	X	X
element	exportRegistrationCode	Chap 3.9.5.1.1	N/A	X	X	X	X	X	X	X	X	X
element	exportRegistrationStmt	Chap 3.9.5.1.1	Table B-1	X	X	X	X	X	X	X	X	X
element	expression	Chap 3.9.5.2.10	N/A							X	X	
element	externalApplication	Chap 3.9.5.2.10	N/A								X	
element	externalPubCode	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	externalPubIssue	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	externalPubIssueInfo	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	externalPubRef	Chap 3.9.5.2.1.2	B.7.10.3.	X	X	X	X	X	X	X	X	X
element	externalPubRefAddressItems	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	externalPubRefIdent	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	externalPubTitle	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	falseValue	Chapter 3.9.5.2.10	N/A							X	X	
element	fault	Chap 3.9.5.2.4	N/A					X				

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Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	faultCond	Chap 3.9.5.2.4	N/A					X				
element	faultContext	Chap 3.9.5.2.4	N/A					X				
element	faultDescr	Chap 3.9.5.2.4	Table B-12					X				
element	faultEquip	Chap 3.9.5.2.4	N/A					X				
element	faultIsolation	Chap 3.9.5.2.4	N/A					X				
element	faultIsolationProcedure	Chap 3.9.5.2.4	N/A					X				
element	faultIsolationRef	Chap 3.9.5.2.4	N/A					X				
element	faultIsolationTest	Chap 3.9.5.2.4	N/A					X				
element	faultMessageBody	Chap 3.9.5.2.4	N/A					X				
element	faultMessageIndication	Chap 3.9.5.2.4	N/A					X				
element	faultReporting	Chap 3.9.5.2.4	N/A					X				
element	faultySubSystem	Chap 3.9.5.2.4	N/A					X				
element	figure	Chap 3.9.5.2.1.7	B.5.3.		X	X	X	X	X	X	X	
element	firstVerification	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	fitmentCode	Chap 3.9.5.2.7	N/A			X						
element	foldout	Chap 3.9.5.2.1.7	B.7.7.2.8.		X		X	X	X	X	X	
element	footnote	Chap 3.9.5.2.1.10	N/A	X	X		X		X	X	X	X
element	footnoteRef	Chap 3.9.5.2.1.10	N/A	X	X		X		X	X	X	X
element	fullNatoStockNumber	Chap 3.9.5.2.1.9	B.7.6.2.4.6.			X	X	X		X	X	
element	functionalItemCode	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	functionalItemRef	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	genericPartData	Chap 3.9.5.2.7	N/A			X						
element	genericPartDataGroup	Chap 3.9.5.2.7	B.7.6.2.9.			X						
element	genericPartDataValue	Chap 3.9.5.2.7	N/A			X						
element	graphic	Chap 3.9.5.2.1.7	B.7.7.2.9.		X	X	X	X	X	X	X	

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element	helpInfo	Chap 3.9.5.2.10	N/A								X	
element	hotspot	Chap 3.9.5.2.1.8	N/A		X	X	X	X	X	X	X	
element	identAndStatusSection	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	identExtension	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	identNumber	Chap 3.9.5.2.1.9	N/A	X	X		X	X	X	X	X	X
element	if	Chap 3.9.5.2.6	N/A						X		X	
element	illustratedPartsCatalog	Chap 3.9.5.2.7	B.7.6.2.			X						
element	ilsNumber	Chap 3.9.5.2.7	N/A			X						
element	indexFlag	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	infoName	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	initialize	Chap 3.9.5.2.10	N/A								X	
element	initialProvisioningProject	Chap 3.9.5.2.7	N/A			X						
element	initialProvisioningProjectRef	Chap 3.9.5.2.7	N/A			X						
element	inlineSignificantData	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	integerValue	Chap 7.6.1	N/A							X	X	
element	interchangeability	Chap 3.9.5.2.7	B.7.6.2.4.7.			X						
element	internalRef	Chap 3.9.5.2.1.2	B.7.10.1.	X	X	X	X	X	X	X	X	X
element	isolateDetectedFault	Chap 3.9.5.2.4	Table B-13 Table B-15					X				
element	isolatedFault	Chap 3.9.5.2.4	B.7.12.1.1.					X				
element	isolationInfo	Chap 3.9.5.2.4	N/A					X				
element	isolationMainProcedure	Chap 3.9.5.2.4	N/A					X				
element	isolationProcedure	Chap 3.9.5.2.4	N/A					X				
element	isolationProcedureEnd	Chap 3.9.5.2.4	N/A					X				
element	isolationStep	Chap 3.9.5.2.4	B.7.4.					X				
element	isolationStepAnswer	Chap 3.9.5.2.4	N/A					X				

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	isolationStepQuestion	Chap 3.9.5.2.4	N/A					X				
element	issueDate	Chap 3.9.5.1	Table B-1 B.7.10.1.	X	X	X	X	X	X	X	X	X
element	issueInfo	Chap 3.9.5.1	B.2.6.1. B.2.6.2. Table B-1 B.7.10.1.	X	X	X	X	X	X	X	X	X
element	itemNumber	Chap 3.9.5.2.14	N/A							X		
element	itemSequenceNumber	Chap 3.9.5.2.7	N/A			X						
element	language	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	legend	Chap 3.9.5.2.1.7	N/A		X	X	X	X	X	X	X	
element	levelledPara	Chap 3.9.5.2.2	B.7.3.		X				X			
element	listItem	Chap 3.9.5.2.1.3	B.7.9.1.	X	X	X	X	X	X	X	X	X
element	listItemDefinition	Chap 3.9.5.2.1.3	N/A	X	X	X	X	X	X	X	X	X
element	listItemTerm	Chap 3.9.5.2.1.3	N/A	X	X	X	X	X	X	X	X	X
element	listOfChoices	Chap 3.9.5.2.4	N/A					X				
element	locateAndRepair	Chap 3.9.5.2.4	Table B-12					X				
element	locateAndRepairLruItem	Chap 3.9.5.2.4	N/A					X				
element	locateAndRepairSruItem	Chap 3.9.5.2.4	N/A					X				
element	locationRcmd	Chap 3.9.5.2.7	N/A			X						
element	locationRcmdSegment	Chap 3.9.5.2.7	N/A			X						
element	logo	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	lru	Chap 3.9.5.2.4	N/A					X				
element	lruItem	Chap 3.9.5.2.4	N/A					X				
element	mainProcedure	Chap 3.9.5.2.3	N/A				X					
element	manufacturerCode	Chap 3.9.5.2.1.9	B.7.6.2.6.	X	X	X	X	X	X	X	X	X
element	menu	Chap 3.9.5.2.10	N/A								X	
element	menuChoice	Chap 3.9.5.2.10	N/A								X	

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	message	Chap 3.9.5.2.10	N/A								X	
element	messageAlt	Chap 3.9.5.2.10	N/A								X	
element	modelVersion	Chap 3.9.5.2.7	N/A			X						
element	modification	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	modificationTitle	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	multimedia	Chap 7.3.3	B.7.8.1.		X	X	X	X	X	X	X	
element	multimediaObject	Chap 7.3.3	B.7.8.1.1.		X	X	X	X	X	X	X	
element	name	Chap 3.9.5.2.1.10	B.2.7.6.1.4. B.2.7.6.2.4.	X	X	X	X	X	X	X	X	X
element	natoStockNumber	Chap 3.9.5.2.1.9	B.7.6.2.4.6.			X	X	X		X	X	
element	noAnswer	Chap 3.9.5.2.4	N/A					X				
element	noAssertions	Chap 3.9.5.2.10	N/A								X	
element	noConds	Chap 3.9.5.2.1.9	B.7.5.1.				X	X		X	X	
element	noSafety	Chap 3.9.5.2.1.9	B.7.5.7.				X	X		X	X	
element	noSpares	Chap 3.9.5.2.1.9	B.7.5.6.				X	X		X	X	
element	noSupplies	Chap 3.9.5.2.1.9	B.7.5.5.				X	X		X	X	
element	noSupportEquips	Chap 3.9.5.2.1.9	B.7.5.4.				X	X		X	X	
element	note	Chap 3.9.3	B.7.11.4.	X	X	X	X	X	X	X	X	X
element	notePara	Chap 3.9.3	N/A	X	X	X	X	X	X	X	X	X
element	notIllustrated	Chap 3.9.5.2.7	N/A			X						
element	noValue	Chap 3.9.5.2.10	N/A							X	X	
element	numberFunction	Chap 3.9.5.2.10	N/A							X	X	
element	numberOperator	Chap 3.9.5.2.10	N/A							X	X	
element	observedFault	Chap 3.9.5.2.4	B.7.12.1.3.					X				
element	originator	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	para	Chap 3.9.5.2.13.1	N/A	X	X	X	X	X	X	X	X	X

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	paraBasic	Chap 3.9.5.2.10	N/A								X	
element	parameter	Chap 7.3.3	B.7.8.1.2.		X	X	X	X	X	X	X	
element	partAndSerialNumber	Chap 3.9.5.2.1.9	N/A	X	X		X	X	X	X	X	X
element	partIdentSegment	Chap 3.9.5.2.7	N/A			X						
element	partLocationSegment	Chap 3.9.5.2.7	N/A			X						
element	partNumber	Chap 3.9.5.2.7	B.7.6.2.3.	X	X	X	X	X	X	X	X	X
element	person	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	personCategory	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	personnel	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	personSkill	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	physicalSecurityPilferageCode	Chap 3.9.5.2.7	N/A			X						
element	pm	Chap 4.9.1	N/A	X								
element	pmAddress	Chap 4.9.1	N/A	X								
element	pmAddressItems	Chap 4.9.1	N/A	X								
element	pmCode	Chap 4.9.1	B.4.1.1.	X	X	X	X	X	X	X	X	X
element	pmEntry	Chap 4.9.1	N/A	X								
element	pmEntryTitle	Chap 4.9.1	N/A	X								
element	pmIdent	Chap 4.9.1	N/A	X								
element	pmRef	Chap 3.9.5.2.1.2	B.7.10.3.	X	X	X	X	X	X	X	X	X
element	pmRefAddressItems	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	pmRefIdent	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	pmStatus	Chap 4.9.1	N/A	X								
element	pmTitle	Chap 4.9.1	B.7.6.2.3.	X	X	X	X	X	X	X	X	X
element	policyStatement	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	preliminaryRqmts	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	proceduralStep	Chap 3.9.5.2.3	N/A				X				X	

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	proceduralStepAlt	Chap 3.9.5.2.10	N/A								X	
element	procedure	Chap 3.9.5.2.3	N/A				X					
element	process	Chap 3.9.5.2.10	N/A								X	
element	productConfiguration	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	productionMaintData	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	productSafety	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	prompt	Chap 3.9.5.2.10	N/A								X	
element	pubMedia	Chap 4.9.1	N/A	X	X	X	X	X	X	X	X	X
element	pushButton	Chap 3.9.5.2.10	N/A								X	
element	qualityAssurance	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	quantity	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	quantityGroup	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	quantityPerNextHigherAssy	Chap 3.9.5.2.7	B.7.6.2.5.			X						
element	quantityPerUnit	Chap 3.9.5.2.7	N/A			X						
element	quantityTolerance	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	quantityValue	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	randomList	Chap 3.9.5.2.1.3	B.7.9.2.	X	X	X	X	X	X	X	X	X
element	realValue	Chap 7.6.1	N/A							X	X	
element	reasonForAmendment	Chap 3.9.5.2.1.1	N/A		X	X	X	X	X	X	X	
element	reasonForSelection	Chap 3.9.5.2.7	B.7.6.2.4.4. B.7.6.2.4.7.			X						
element	reasonForUpdate	Chap 3.9.5.2.1.1	B.2.6.2. B.3.3.	X	X	X	X	X	X	X	X	X
element	receiveByName	Chap 3.9.5.2.10	N/A								X	
element	receiveByPosition	Chap 3.9.5.2.10	N/A								X	

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	receiveValue	Chap 3.9.5.2.10	N/A								X	
element	referencedApplicGroup	Chap 3.9.5.3	B.2.7.3.		X	X	X	X	X	X	X	X
element	referenceDesignator	Chap 3.9.5.2.7	B.7.6.2.2.			X						
element	referTo	Chap 3.9.5.2.7	N/A			X						
element	refs	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	remarks	Chap 3.9.5.1	Table B-12 Table B-13 Table B-14 Table B-15	X	X	X	X	X	X	X	X	X
element	repair	Chap 3.9.5.2.4	N/A					X				
element	reqCond	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	reqCondCircuitBreaker	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	reqCondDm	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	reqCondExternalPub	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	reqCondGroup	Chap 3.9.5.2.1.9	B.7.5.1.				X	X		X	X	
element	reqCondNoRef	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	reqCondPm	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	reqPersons	Chap 3.9.5.2.1.9	B.7.5.2.				X	X		X	X	
element	reqQuantity	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	reqSafety	Chap 3.9.5.2.1.9	B.7.5.7.				X	X		X	X	
element	reqSpares	Chap 3.9.5.2.1.9	B.7.5.6.				X	X		X	X	
element	reqSupplies	Chap 3.9.5.2.1.9	B.7.5.5.				X	X		X	X	
element	reqSupportEquips	Chap 3.9.5.2.1.9	B.7.5.4.				X	X		X	X	
element	reqTechInfo	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	reqTechInfoGroup	Chap 3.9.5.2.1.9	B.7.5.3.				X	X		X	X	
element	response	Chap 3.9.5.2.6	N/A						X		X	
element	responsiblePartnerCompany	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	restrictionInfo	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	restrictionInstructions	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	retrofit	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	returnedValueName	Chap 3.9.5.2.10	N/A								X	
element	returnedValuePosition	Chap 3.9.5.2.10	N/A								X	
element	row	Chap 3.9.5.2.1.6	B.7.7.2.7.		X		X	X	X	X	X	
element	safetyRqmts	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	secondVerification	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	security	Chap 3.9.5.1	B.2.2. Table B-1 B.7.1.	X	X	X	X	X	X	X	X	X
element	selectOrManufacture	Chap 3.9.5.2.7	N/A			X						
element	selectOrManufactureFromIdent	Chap 3.9.5.2.7	N/A			X						
element	send	Chap 3.9.5.2.10	N/A								X	
element	sendName	Chap 3.9.5.2.10	N/A								X	
element	sequentialList	Chap 3.9.5.2.1.3	B.7.9.1.	X	X	X	X	X	X	X	X	X
element	serialNumber	Chap 3.9.5.2.1.9	N/A	X	X		X	X	X	X	X	X
element	service	Chap 3.9.5.2.7	B.7.6.2.8.			X						
element	setFunction	Chap 7.6.1	N/A							X	X	
element	setOperator	Chap 7.6.1	N/A							X	X	
element	setValue	Chap 7.6.1	N/A							X	X	
element	shortExternalPubTitle	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
element	shortName	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	shortPmTitle	Chap 4.9.1	Table B-1	X	X	X	X	X	X	X	X	X
element	simplePara	Chap 3.9.5.2.1.10	Table B-1	X	X	X	X	X	X	X	X	X
element	skillLevel	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	sourceDmIdent	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
element	sourceMaintRecoverability	Chap 3.9.5.2.7	B.7.6.2.8.			X						
element	sourcePmIdent	Chap 4.9.1	N/A	X								
element	spanspec	Chap 3.9.5.2.1.6	B.7.7.2.6.	X	X		X	X	X	X	X	X
element	spareDescr	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	spareDescrGroup	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	specialStorage	Chap 3.9.5.2.7	B.7.6.2.4.4.			X						
element	sru	Chap 3.9.5.2.4	N/A					X				
element	sruItem	Chap 3.9.5.2.4	N/A					X				
element	stringFunction	Chap 7.6.1	N/A							X	X	
element	stringOperator	Chap 7.6.1	N/A							X	X	
element	stringValue	Chap 7.6.1	N/A							X	X	
element	subCrewDrill	Chap 3.9.5.2.6	N/A						X		X	
element	subjectIdent	Chap 3.9.5.2.7	N/A			X						
element	subjectVariantSegment	Chap 3.9.5.2.7	N/A			X						
element	subScript	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	subStringFunction	Chap 7.6.1	N/A							X	X	
element	subStringLength	Chap 7.6.1	N/A							X	X	
element	subStringPosition	Chap 7.6.1	N/A							X	X	
element	superScript	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	supersedure	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X	X	X	X
element	supplyDescr	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	supplyDescrGroup	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	supplyRqmtRef	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	supportEquipDescr	Chap 3.9.5.2.1.9	N/A				X	X		X	X	

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	supportEquipDescrGroup	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	symbol	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	systemBreakdownCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	systemIdent	Chap 3.9.5.2.4	N/A					X				
element	systemLocation	Chap 3.9.5.2.4	N/A					X				
element	systemName	Chap 3.9.5.2.4	N/A					X				
element	systemPosition	Chap 3.9.5.2.4	N/A					X				
element	table	Chap 3.9.5.2.1.6	B.7.7.2.		X		X	X	X	X	X	
element	taskDuration	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	tbody	Chap 3.9.5.2.1.6	N/A		X		X	X	X	X	X	
element	techPubBase	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	techStandard	Chap 3.9.5.1	B.4.2.2.		X	X	X	X	X	X	X	X
element	termTitle	Chap 3.9.5.2.1.3	B.7.9.3.	X	X	X	X	X	X	X	X	X
element	testDescr	Chap 3.9.5.2.4	N/A					X				
element	testName	Chap 3.9.5.2.4	N/A					X				
element	testParameters	Chap 3.9.5.2.4	N/A					X				
element	testProcedure	Chap 3.9.5.2.4	N/A					X				
element	tfoot	Chap 3.9.5.2.1.6	N/A		X		X	X	X	X	X	
element	tgroup	Chap 3.9.5.2.1.6	B.7.7.2.2.		X		X	X	X	X	X	
element	thead	Chap 3.9.5.2.1.6	B.7.7.2.3.		X		X	X	X	X	X	
element	threshold	Chap 3.9.5.2.14	N/A							X		
element	thresholdInterval	Chap 3.9.5.2.5	N/A				X	X		X	X	
element	thresholdValue	Chap 3.9.5.2.14	N/A							X		
element	thumbTabText	Chap 3.9.5.2.6	N/A						X		X	

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	title	Chap 3.9.5.2.1.5	B.5.3. B.7.4. B.7.7.2.1. B.7.8.1.1. B.7.9. B.7.10.1.	X	X	X	X	X	X	X	X	X
element	tolerance	Chap 3.9.5.2.14	N/A							X		
element	toolRef	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	trade	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	trueValue	Chap 3.9.5.2.10	N/A							X	X	
element	unitOfIssue	Chap 3.9.5.2.7	N/A			X						
element	unitOfIssueQualificationSegment	Chap 3.9.5.2.7	N/A			X						
element	unverified	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
element	usableOnCodeAssy	Chap 3.9.5.2.7	B.7.6.2.7.			X						
element	usableOnCodeEquip	Chap 3.9.5.2.7	B.7.6.2.7.			X						
element	userEntry	Chap 3.9.5.2.10	N/A								X	
element	validate	Chap 3.9.5.2.10	N/A								X	
element	variable	Chap 3.9.5.2.10	N/A								X	
element	variableDeclarations	Chap 3.9.5.2.10	N/A								X	
element	variablePostSet	Chap 3.9.5.2.10	N/A							X	X	
element	variablePreSet	Chap 3.9.5.2.10	N/A								X	
element	variableRef	Chap 3.9.5.2.10	N/A	X						X	X	X
element	verbatimText	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
element	viewLocation	Chap 3.9.5.2.4	N/A					X				
element	warning	Chap 3.9.3	B.7.11.1. B.7.11.2.		X		X	X	X	X	X	
element	warningAndCautionPara	Chap 3.9.3	N/A		X		X	X	X	X	X	
element	warningMalfunction	Chap 3.9.5.2.4	N/A					X				

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
element	warningsAndCautions	Chap 3.9.3	N/A		X		X	X	X	X	X	
element	workArea	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
element	yesAnswer	Chap 3.9.5.2.4	N/A					X				
element	yesNoAnswer	Chap 3.9.5.2.4	N/A					X				
element	zoneGroup	Chap 3.9.5.2.7	N/A			X						
element	zoneRef	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X	X	X	X
attribute	accessPointNumber	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X	X	X	X
attribute	accessPointTypeValue	Chap 3.9.5.2.1.9	B.7.12.7.	X	X	X	X	X	X	X	X	X
attribute	acronymType	Chap 3.9.5.2.1.10	B.7.12.7.	X	X	X	X	X	X	X	X	X
attribute	actionResponsibility	Chap 3.9.5.2.6	N/A						X		X	
attribute	align	Chap 3.9.5.2.1.6	B.7.7.3.4.	X	X		X	X	X	X	X	X
attribute	alignCaption	Chap 3.9.5.2.1.4	N/A	X	X		X	X	X	X	X	X
attribute	alignCaptionEntry	Chap 3.9.5.2.1.4	N/A	X	X			X	X	X		X
attribute	altName	Chap 3.9.5.2.10	N/A								X	
attribute	andOr	Chap 3.9.5.3	B.2.7.3.5.	X	X	X	X	X	X	X	X	X
attribute	application	Chap 3.9.5.2.10	N/A								X	
attribute	applicationStructureIdent	Chap 3.9.5.2.1.8	N/A		X	X	X	X	X	X	X	
attribute	applicationStructureName	Chap 3.9.5.2.1.8	N/A		X	X	X	X	X	X	X	
attribute	applicConfiguration	Chap 3.9.5.3	B.2.7.3.2.		X	X	X	X	X		X	X
attribute	applicDisplayClass	Chap 3.9.5.3	B.2.7.3.4. B.2.7.3.5.	X	X	X	X	X	X	X	X	X
attribute	applicPropertyIdent	Chap 3.9.5.3	B.2.7.3.4. B.2.7.6.3.3.	X	X	X	X	X	X	X	X	X
attribute	applicPropertyType	Chap 3.9.5.3	B.2.7.3.4. B.2.7.5. B.2.7.6.3.3	X	X	X	X	X	X	X	X	X

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
attribute	applicPropertyValues	Chap 3.9.5.3	B.2.7.3.4. B.2.7.5. B.2.7.6.1.3. B.2.7.6.1.7. B.2.7.6.2.6.	X	X	X	X	X	X	X	X	X
attribute	applicRefId	Chap 3.9.5.3	B.2.7.3. B.2.7.4.	X	X	X	X	X	X	X	X	X
attribute	applicRefIds	Chap 3.9.5.2.7	N/A			X						
attribute	assyCode	Chap 3.9.5.1	B.4.2.1.4.	X	X	X	X	X	X	X	X	X
attribute	attachStoreShipPartCode	Chap 3.9.5.2.7	N/A			X						
attribute	authorityDocument	Chap 3.9.5.2.1.11	Table B-1	X	X	X	X	X	X	X	X	X
attribute	authorityName	Chap 3.9.5.2.1.11	N/A	X	X	X	X	X	X	X	X	X
attribute	authorizationIdent	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
attribute	autoPlay	Chap 7.3.3	B.7.1.8.2.		X	X	X	X	X	X	X	
attribute	booleanAction	Chap 7.6.1	N/A							X	X	
attribute	booleanOperation	Chap 7.6.1	N/A							X	X	
attribute	cancelCaption	Chap 3.9.5.2.10	N/A								X	
attribute	captionHeight	Chap 3.9.5.2.1.4	N/A	X	X		X	X	X	X	X	X
attribute	captionType	Chap 3.9.5.2.1.4	N/A	X	X		X	X	X	X	X	X
attribute	captionWidth	Chap 3.9.5.2.1.4	N/A	X	X		X	X	X	X	X	X
attribute	catalogItemNumber	Chap 3.9.5.2.7	B.7.6.2.1.			X						
attribute	catalogSeqNumberValue	Chap 3.9.5.2.7	B.7.6.2.1.		X	X	X	X	X	X	X	
attribute	cautionRefs	Chap 3.9.3	N/A		X		X	X	X	X	X	
attribute	cautionType	Chap 3.9.3	N/A		X		X	X	X	X	X	
attribute	caveat	Chap 3.6	Table B-1 B.7.1.	X	X	X	X	X	X	X	X	X
attribute	changeMark	Chap 3.9.5.2.1.1	B.2.6.2. B.3.3. B.3.3.1.	X	X	X	X	X	X	X	X	X

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
attribute	changeType	Chap 3.9.5.2.1.1	B.2.6.2.	X	X	X	X	X	X	X	X	X
attribute	char	Chap 3.9.5.2.1.6	B.7.7.2.6.	X	X		X	X	X	X	X	X
attribute	charoff	Chap 3.9.5.2.1.6	B.7.7.2.6.	X	X		X	X	X	X	X	X
attribute	checkListCategory	Chap 3.9.5.2.14	Para TBD							X		
attribute	checkListType	Chap 3.9.5.2.14	B.7.12.7.							X		
attribute	checkSum	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
attribute	choiceSelection	Chap 3.9.5.2.10	N/A								X	
attribute	choiceType	Chap 3.9.5.2.10	N/A								X	
attribute	circuitBreakerAction	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X	X	X	X
attribute	circuitBreakerNumber	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X	X	X	X
attribute	circuitBreakerType	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X	X	X	X
attribute	closeupDuration	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
attribute	colname	Chap 3.9.5.2.1.6	Table B-7 Table B-8	X	X		X	X	X	X	X	X
attribute	colnum	Chap 3.9.5.2.1.6	N/A	X	X		X	X	X	X	X	X
attribute	color	Chap 3.9.5.2.1.4	B.7.12.7.	X	X		X	X	X	X	X	X
attribute	cols	Chap 3.9.5.2.1.6	B.7.7.2.2.	X	X		X	X	X	X	X	X
attribute	colsep	Chap 3.9.5.2.1.6	B.7.7.3.1.	X	X		X	X	X	X	X	X
attribute	colwidth	Chap 3.9.5.2.1.6	B.7.7.2.5.	X	X		X	X	X	X	X	X
attribute	commercialClassification	Chap 3.9.5.1	B.7.1. B.7.2.	X	X	X	X	X	X	X	X	X
attribute	contextIdent	Chap 3.9.5.2.7	N/A			X						
attribute	controlIndicatorNumber	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
attribute	countryIsoCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	crewMemberType	Chap 3.9.5.2.6	B.7.12.7.						X	X	X	
attribute	crewStepCondition	Chap 3.9.5.2.6	B.7.12.7.						X		X	

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
attribute	dataEntryFieldLength	Chap 3.9.5.2.10	N/A								X	
attribute	day	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	descrForItemCode	Chap 3.9.5.2.7	B.7.6.2.4.2.			X						
attribute	detectionType	Chap 3.9.5.2.4	N/A					X				
attribute	dialogSeparator	Chap 3.9.5.2.10	N/A								X	
attribute	disassyCode	Chap 3.9.5.1	B.4.2.1.5.	X	X	X	X	X	X	X	X	X
attribute	disassyCodeVariant	Chap 3.9.5.1	B.4.2.1.6.	X	X	X	X	X	X	X	X	X
attribute	drillType	Chap 3.9.5.2.6	B.7.12.7.						X		X	
attribute	emphasisType	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
attribute	enterpriseCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	errorMessage	Chap 3.9.5.2.10	N/A								X	
attribute	esd	Chap 3.9.5.2.14	N/A							X		
attribute	exportRegulationCodeType	Chap 3.9.5.1.1	N/A	X	X	X	X	X	X	X	X	X
attribute	exportRegulationType	Chap 3.9.5.1.1	N/A	X	X	X	X	X	X	X	X	X
attribute	exportRole	Chap 3.9.5.1.1	N/A	X	X	X	X	X	X	X	X	X
attribute	extensionCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	extensionProducer	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	faultCode	Chap 3.9.5.2.4	Table B-12 Table B-13 Table B-14					X				
attribute	faultPartCategory	Chap 3.9.5.2.4	N/A					X				
attribute	faultProbability	Chap 3.9.5.2.4	N/A					X				
attribute	faultType	Chap 3.9.5.2.4	Table B-14					X				
attribute	fileIdent	Chap 3.9.5.2.7	N/A			X						
attribute	fitmentCodeValue	Chap 3.9.5.2.7	N/A			X						
attribute	footnoteMark	Chap 3.9.5.2.1.10	N/A	X	X		X		X	X	X	X

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
attribute	frame	Chap 3.9.5.2.1.6	B.7.7.2.		X		X	X	X	X	X	
attribute	from	Chap 3.9.5.2.4	N/A					X				
attribute	fullScreen	Chap 7.3.3	N/A		X	X	X	X	X	X	X	
attribute	functionalItemNumber	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	functionalItemType	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	genericPartDataName	Chap 3.9.5.2.7	N/A			X						
attribute	governmentAuthority	Chap 3.9.5.1.1	N/A	X	X	X	X	X	X	X	X	X
attribute	hcp	Chap 3.9.5.2.14	N/A							X		
attribute	hotspotTitle	Chap 3.9.5.2.1.8	N/A		X	X	X	X	X	X	X	
attribute	hotspotType	Chap 3.9.5.2.1.8	N/A		X	X	X	X	X	X	X	
attribute	humanReadableForm	Chap 3.9.5.2.10	N/A							X	X	
attribute	id	Chap 3.9.5.2.1.2	Table B-11	X	X	X	X	X	X	X	X	X
attribute	independentCheck	Chap 3.9.5.2.3	N/A			X	X	X	X		X	
attribute	indexLevelFour	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
attribute	indexLevelOne	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
attribute	indexLevelThree	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
attribute	indexLevelTwo	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
attribute	infoCode	Chap 3.9.5.1	B.4.2.1.7.	X	X	X	X	X	X	X	X	X
attribute	infoCodeVariant	Chap 3.9.5.1	B.4.2.1.8.	X	X	X	X	X	X	X	X	X
attribute	infoEntityIdent	Chap 3.9.5.2.1.7	B.7.8.1.2.	X	X	X	X	X	X	X	X	X
attribute	initialProvisioningProjectNumber	Chap 3.9.5.2.7	N/A			X						
attribute	initialProvisioningProjectNumber Subject	Chap 3.9.5.2.7	N/A			X						
attribute	initialProvisioningProjectValue	Chap 3.9.5.2.1.9	N/A		X	X	X	X	X	X	X	
attribute	installationIdent	Chap 3.9.5.2.7	N/A			X						

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
attribute	internalRefId	Chap 3.9.5.2.1.2	Table B-11	X	X	X	X	X	X	X	X	X
attribute	internalRefTargetType	Chap 3.9.5.2.1.2	Table B-11	X	X	X	X	X	X	X	X	X
attribute	inWork	Chap 3.9.5.1	B.2.6.1. Table B-1	X	X	X	X	X	X	X	X	X
attribute	issueNumber	Chap 3.9.5.1	B.2.6.1. Table B-1	X	X	X	X	X	X	X	X	X
attribute	issueType	Chap 3.9.5.1	B.2.6.2.	X	X	X	X	X	X	X	X	X
attribute	itemCharacteristic	Chap 3.9.5.2.3	B.7.12.5.				X				X	
attribute	itemLocationCode	Chap 3.9.5.1	B.4.2.1.9.	X	X	X	X	X	X	X	X	X
attribute	itemOriginator	Chap 3.9.5.2.7	B.7.12.7.			X						
attribute	itemSeqNumberValue	Chap 3.9.5.2.1.9	N/A		X	X	X	X	X	X	X	
attribute	keepWithNext	Chap 3.9.5.2.3	N/A				X	X	X		X	
attribute	languageCode	Chap 3.9.5.2.7	N/A			X						
attribute	languageIsoCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	learnCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	learnEventCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	linkActuate	Chap 3.9.5.2.10	N/A	X	X	X	X	X	X	X	X	X
attribute	linkShow	Chap 3.9.5.2.10	N/A	X	X	X	X	X	X	X	X	X
attribute	listItemPrefix	Chap 3.9.3	B.7.9.2.	X	X	X	X	X	X	X	X	X
attribute	lsarData	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X	X	X	X
attribute	man	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
attribute	mandatory	Chap 3.9.5.2.10	N/A								X	
attribute	manufacturerCodeValue	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	mediaLocation	Chap 4.9.1	N/A	X	X	X	X	X	X	X	X	X
attribute	memorizeStepsFlag	Chap 3.9.5.2.6	N/A						X		X	
attribute	menuChoiceDefaultFlag	Chap 3.9.5.2.10	N/A								X	
attribute	menuChoiceFlow	Chap 3.9.5.2.10	N/A								X	

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
attribute	modelIdentCode	Chap 3.9.5.1	B.4.1.1.1. B.4.2.1.1.	X	X	X	X	X	X	X	X	X
attribute	modelVersionValue	Chap 3.9.5.2.7	N/A			X						
attribute	modificationType	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
attribute	month	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	morerows	Chap 3.9.5.2.1.6	B.7.7.2.4.	X	X		X	X	X	X	X	X
attribute	multimediaObjectHeight	Chap 7.3.3	N/A		X	X	X	X	X	X	X	
attribute	multimediaObjectWidth	Chap 7.3.3	N/A		X	X	X	X	X	X	X	
attribute	multimediaType	Chap 7.3.3	B.7.8.1.2.		X	X	X	X	X	X	X	
attribute	nameend	Chap 3.9.5.2.1.6	B.7.7.2.4.	X	X		X	X	X	X	X	X
attribute	namest	Chap 3.9.5.2.1.6	B.7.7.2.4.	X	X		X	X	X	X	X	X
attribute	natoCodificationBureau	Chap 3.9.5.2.1.9	B.7.6.2.4.6.			X	X	X		X	X	
attribute	natoItemIdentNumberCore	Chap 3.9.5.2.1.9	B.7.6.2.4.6.			X	X	X		X	X	
attribute	natoSupplyClass	Chap 3.9.5.2.1.9	B.7.6.2.4.6.			X	X	X		X	X	
attribute	nextActionRefId	Chap 3.9.5.2.4	N/A					X				
attribute	noteType	Chap 3.9.3	N/A	X	X	X	X	X	X	X	X	X
attribute	numberAction	Chap 7.6.1	N/A							X	X	
attribute	numberOperation	Chap 7.6.1	N/A							X	X	
attribute	numRequired	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
attribute	objectCoordinates	Chap 3.9.5.2.1.8	N/A		X	X	X	X	X	X	X	
attribute	objectDescr	Chap 3.9.5.2.1.8	N/A		X	X	X	X	X	X	X	
attribute	orderedStepsFlag	Chap 3.9.5.2.6	N/A						X		X	
attribute	orient	Chap 3.9.5.2.1.6	B.7.7.2.		X		X	X	X	X	X	
attribute	parameterIdent	Chap 7.3.3	N/A		X	X	X	X	X	X	X	
attribute	parameterName	Chap 7.3.3	N/A		X	X	X	X	X	X	X	
attribute	parameterValue	Chap 7.3.3	N/A		X	X	X	X	X	X	X	
attribute	partCharacteristic	Chap 3.9.5.2.7	N/A			X						

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
attribute	personCategoryCode	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
attribute	pgwide	Chap 3.9.5.2.1.6	N/A		X		X	X	X	X	X	
attribute	pmEntryType	Chap 4.9.1	B.7.12.7.	X								
attribute	pmIssuer	Chap 4.9.1	B.4.1.1.2.	X	X	X	X	X	X	X	X	X
attribute	pmNumber	Chap 4.9.1	B.4.1.1.3.	X	X	X	X	X	X	X	X	X
attribute	pmVolume	Chap 4.9.1	B.4.1.1.4.	X	X	X	X	X	X	X	X	X
attribute	procedureDuration	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
attribute	productConfigurationFlag	Chap 3.9.5.2.10	N/A								X	
attribute	pubCodingScheme	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
attribute	pubMediaCode	Chap 4.9.1	N/A	X	X	X	X	X	X	X	X	X
attribute	pubMediaType	Chap 4.9.1	N/A	X	X	X	X	X	X	X	X	X
attribute	quantityGroupType	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
attribute	quantityToleranceType	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X	X	X	X
attribute	quantityType	Chap 3.9.5.2.1.10	B.7.12.7.	X	X	X	X	X	X	X	X	X
attribute	quantityUnitOfMeasure	Chap 3.9.5.2.1.10	B.7.12.6.	X	X	X	X	X	X	X	X	X
attribute	reasonForSelectionValue	Chap 3.9.5.2.7	N/A			X						
attribute	reasonForUpdateRefIds	Chap 3.9.5.2.1.1	B.2.6.2.	X	X	X	X	X	X	X	X	X
attribute	reducedMaint	Chap 3.9.5.2.14	N/A							X		
attribute	referredFragment	Chap 3.9.5.2.1.2	B.7.10.1.	X	X	X	X	X	X	X	X	X
attribute	refType	Chap 3.9.5.2.7	N/A			X						
attribute	reproductionHeight	Chap 3.9.5.2.1.7	N/A	X	X	X	X	X	X	X	X	X
attribute	reproductionScale	Chap 3.9.5.2.1.7	N/A	X	X	X	X	X	X	X	X	X
attribute	reproductionWidth	Chap 3.9.5.2.1.7	N/A	X	X	X	X	X	X	X	X	X
attribute	reqCondCategory	Chap 3.9.5.2.1.9	B.7.12.7.				X	X		X	X	

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
attribute	reqTechInfoCategory	Chap 3.9.5.2.1.9	B.7.12.7.				X	X		X	X	
attribute	resetCaption	Chap 3.9.5.2.10	N/A								X	
attribute	responsiblePartnerCompanyCode	Chap 3.9.5.2.1.9	N/A		X	X	X	X	X	X	X	
attribute	rotate	Chap 3.9.5.2.1.6	N/A		X		X	X	X	X	X	
attribute	rowsep	Chap 3.9.5.2.1.6	B.7.7.2. B.7.7.3.2.	X	X		X	X	X	X	X	X
attribute	runTimeDuration	Chap 7.3.3	N/A		X	X	X	X	X	X	X	
attribute	safeFlight	Chap 3.9.5.2.14	N/A							X		
attribute	safetyLabel	Chap 3.9.5.1	N/A		X	X	X	X	X	X	X	X
attribute	securityClassification	Chap 3.6	Table B-1 B.7.1. B.7.2.	X	X	X	X	X	X	X	X	X
attribute	selectOrManufactureValue	Chap 3.9.5.2.7	N/A			X						
attribute	separatorStyle	Chap 3.9.5.2.6	N/A						X		X	
attribute	serialNumberForm	Chap 3.9.5.2.1.9	N/A	X	X		X	X	X	X	X	X
attribute	serialNumberValue	Chap 3.9.5.2.1.9	N/A	X	X		X	X	X	X	X	X
attribute	setAction	Chap 7.6.1	N/A							X	X	
attribute	setOperation	Chap 7.6.1	N/A							X	X	
attribute	showPluginControls	Chap 7.3.3	B.7.8.1.2.		X	X	X	X	X	X	X	
attribute	significantParaDataType	Chap 3.9.5.2.1.10	B.7.12.7.	X	X	X	X	X	X	X	X	X
attribute	skillLevelCode	Chap 3.9.5.2.1.9	N/A		X	X	X	X	X	X	X	X
attribute	skillType	Chap 3.9.5.2.14	B.7.12.7.							X		
attribute	spanname	Chap 3.9.5.2.1.6	B.7.7.2.6.	X	X		X	X	X	X	X	X
attribute	specific	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
attribute	startupDuration	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
attribute	stepLabel	Chap 3.9.5.2.6	N/A						X		X	
attribute	stringAction	Chap 7.6.1	N/A							X	X	

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
attribute	stringOperation	Chap 7.6.1	N/A							X	X	
attribute	subCategory	Chap 3.9.5.2.4	N/A					X				
attribute	submitCaption	Chap 3.9.5.2.10	N/A								X	
attribute	subSubSystemCode	Chap 3.9.5.1	B.4.2.1.3.3.	X	X	X	X	X	X	X	X	X
attribute	subSystemCode	Chap 3.9.5.1	B.4.2.1.3.2.	X	X	X	X	X	X	X	X	X
attribute	supplyRqmtNumber	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
attribute	systemCode	Chap 3.9.5.1	B.4.2.1.3.1.	X	X	X	X	X	X	X	X	X
attribute	systemDiffCode	Chap 3.9.5.1	B.4.2.1.2.	X	X	X	X	X	X	X	X	X
attribute	systemIdentCode	Chap 3.9.5.2.1.4	N/A	X	X		X	X	X	X	X	X
attribute	tableOfContentType	Chap 3.9.5.2.1.4	N/A	X	X		X	X	X	X	X	X
attribute	tabstyle	Chap 3.9.5.2.1.6	N/A		X		X	X	X	X	X	
attribute	targetTitle	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X	X	X	X
attribute	testCode	Chap 3.9.5.2.4	N/A					X				
attribute	testType	Chap 3.9.5.2.4	N/A					X				
attribute	textDisplayPosition	Chap 3.9.5.2.10	N/A								X	
attribute	tgstyle	Chap 3.9.5.2.1.6	N/A		X		X	X	X	X	X	
attribute	thresholdType	Chap 3.9.5.2.14	N/A							X		
attribute	thresholdUnitOfMeasure	Chap 3.9.5.2.5	B.7.12.7.				X	X		X	X	
attribute	to	Chap 3.9.5.2.4	N/A					X				
attribute	tocentry	Chap 3.9.5.2.1.6	N/A		X		X	X	X	X	X	
attribute	toleranceHigh	Chap 3.9.5.2.14	N/A							X		
attribute	toleranceLow	Chap 3.9.5.2.14	N/A							X		
attribute	toolAltFlag	Chap 3.9.5.2.1.9	N/A				X	X		X	X	
attribute	toolNumber	Chap 3.9.5.2.11.9	N/A				X	X		X	X	
attribute	unitOfMeasure	Chap 3.9.5.2.1.9	N/A			X	X	X		X	X	
attribute	updateHighlight	Chap 3.9.5.2.1.1	N/A	X	X	X	X	X	X	X	X	X

Table A-2 Elements and Attributes for the pm.xsd, descript.xsd, ipd.xsd, proced.xsd, fault.xsd, crew.xsd, checklist.xsd, process.xsd, and container.xsd Schemas												
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**pm**	**descript**	**ipd**	**proced**	**fault**	**crew**	**checklist**	**process**	**container**
attribute	updateReasonType	Chap 3.9.5.2.1.1	B.7.12.7.	X	X	X	X	X	X	X	X	X
attribute	valign	Chap 3.9.5.2.1.6	B.7.7.3.3.	X	X		X	X	X	X	X	X
attribute	valuePrecision	Chap 3.9.5.2.10	N/A								X	
attribute	valueType	Chap 3.9.5.2.10	N/A								X	
attribute	variableDescr	Chap 3.9.5.2.10	N/A								X	
attribute	variableName	Chap 3.9.5.2.10	N/A	X						X	X	X
attribute	variableScope	Chap 3.9.5.2.10	N/A								X	
attribute	verbatimStyle	Chap 3.9.5.2.1.10	B.7.12.4.	X	X	X	X	X	X	X	X	X
attribute	verificationType	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	visibility	Chap 3.9.5.2.1.8	N/A		X	X	X	X	X	X	X	
attribute	vitalWarningFlag	Chap 3.9.3	B.7.11.1.		X		X	X	X	X	X	
attribute	volumeNumber	Chap 4.9.1	N/A	X	X	X	X	X	X	X	X	X
attribute	warningRefs	Chap 3.9.3	N/A		X		X	X	X	X	X	
attribute	warningType	Chap 3.9.3	N/A		X		X	X	X	X	X	
attribute	worthinessLimit	Chap 3.9.5.2.14	N/A							X		
attribute	year	Chap 3.9.5.1	N/A	X	X	X	X	X	X	X	X	X
attribute	zoneNumber	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X	X	X	X

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
element	accessPointRef	Chap 3.9.5.2.1.9	N/A	X			X	X	X
element	acronym	Chap 3.9.5.2.1.10	B.6.1.	X	X	X	X	X	X
element	acronymDefinition	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	acronymTerm	Chap 3.9.5.2.1.10	B.6.1.	X	X	X	X	X	X
element	additionalModification	Chap 3.9.5.1	N/A	X	X	X	X		
element	address	Chap 7.5.1	N/A					X	
element	answer	Chap 4.5.1	N/A						X
element	applic	Chap 3.9.5.3	B.2.7.3.2.	X	X	X	X		
element	applicCrossRefTable	Chap 3.9.5.3.1	B.2.7.6.1.1.	X					
element	applicCrossRefTableRef	Chap 3.9.5.1	B.2.7.7.	X	X	X	X		
element	assert	Chap 3.9.5.3	B.2.7.3.4.	X	X	X	X		
element	assign	Chap 3.9.5.3.3	B.2.7.6.3.3.			X			
element	attentionListItemPara	Chap 3.9.3	N/A	X	X	X	X	X	X
element	attentionRandomList	Chap 3.9.3	B.7.9.2.	X	X	X	X	X	X
element	attentionRandomListItem	Chap 3.9.3	N/A	X	X	X	X	X	X
element	attentionSequentialList	Chap 3.9.3	B.7.9.1.	X	X	X	X	X	X
element	attentionSequentialListItem	Chap 3.9.3	N/A	X	X	X	X	X	X
element	authorityExceptions	Chap 3.9.5.1	N/A	X	X	X	X		
element	authorityInfo	Chap 3.9.5.1	N/A	X	X	X	X		
element	authorityInfoAndTp	Chap 3.9.5.1	N/A	X	X	X	X		
element	authorityNotes	Chap 3.9.5.1	B.4.2.2.	X	X	X	X		
element	authorization	Chap 7.5.1	N/A					X	
element	behavior	Chap 3.9.5.2.1.2	B.7.10.2.	X	X	X	X	X	X
element	brex	Chap 4.10.2	N/A				X		
element	brexDmRef	Chap 3.9.5.1	N/A	X	X	X	X		
element	building	Chap 7.5.1	N/A					X	

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
element	caption	Chap 3.9.5.2.1.4	N/A	X			X	X	X
element	captionBody	Chap 3.9.5.2.1.4	N/A	X				x	x
element	captionEntry	Chap 3.9.5.2.1.4	N/A	X				X	X
element	captionGroup	Chap 3.9.5.2.1.4	N/A	X				X	X
element	captionLine	Chap 3.9.5.2.1.4	N/A	X			X	X	X
element	captionRow	Chap 3.9.5.2.1.4	N/A	X				X	X
element	captionText	Chap 3.9.5.2.1.4	N/A	X				X	X
element	changeInline	Chap 3.9.5.2.1.1	B.2.6.2.	X	X	X	X	X	X
element	circuitBreakerRef	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X
element	city	Chap 7.5.1	N/A					X	
element	colspec	Chap 3.9.5.2.1.6	B.7.7.2.5.	X				X	X
element	cond	Chap 3.9.5.3.2	B.2.7.7.		X				
element	condCrossRefTable	Chap 3.9.5.3.2	B.2.7.6.2.1.		X				
element	condCrossRefTableRef	Chap 3.9.5.3.1	B.2.7.6.1.8.	X					
element	condIncorporation	Chap 3.9.5.3.2	N/A		X				
element	condList	Chap 3.9.5.3.2	B.2.7.6.2.1.		X				
element	condType	Chap 3.9.5.3.2	B.2.7.6.2.3.		X				
element	condTypeList	Chap 3.9.5.3.2	B.2.7.6.2.2.		X				
element	content	Chap 3.9.5.2	N/A	X	X	X	X		
element	contextRules	Chap 4.10.2	N/A				X		
element	controlIndicatorRef	Chap 3.9.5.2.1.10	N/A	X			X	X	X
element	copyright	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X
element	copyrightPara	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X
element	country	Chap 7.5.1	N/A					X	
element	dataConds	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X
element	dataDestruction	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
element	dataDisclosure	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X
element	dataDistribution	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	dataHandling	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X
element	dataRestrictions	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	ddn	Chap 7.5.1	N/A					X	
element	ddnAddress	Chap 7.5.1	N/A					X	
element	ddnAddressItems	Chap 7.5.1	N/A					X	
element	ddnCode	Chap 4.6	N/A					X	
element	ddnContent	Chap 7.5.1	N/A					X	
element	ddnIdent	Chap 7.5.1	N/A					X	
element	ddnStatus	Chap 7.5.1	N/A					X	
element	definitionList	Chap 3.9.5.2.1.3	B.7.9.3.	X	X	X	X	X	X
element	definitionListHeader	Chap 3.9.5.2.1.3	B.7.9.3.	X	X	X	X	X	X
element	definitionListItem	Chap 3.9.5.2.1.3	N/A	X	X	X	X	X	X
element	definitionTitle	Chap 3.9.5.2.1.3	B.7.9.3.	X	X	X	X	X	X
element	deliveryList	Chap 7.5.1	N/A					X	
element	deliveryListItem	Chap 7.5.1	N/A					X	
element	department	Chap 7.5.1	N/A					X	
element	descr	Chap 3.9.5.2.4	B.2.7.6.1.6. B.2.7.6.2.5.	X	X				
element	dispatchAddress	Chap 7.5.1	N/A					X	
element	dispatchFileName	Chap 7.5.1	N/A					X	
element	dispatchFrom	Chap 7.5.1	N/A					X	
element	dispatchPerson	Chap 7.5.1	N/A					X	
element	dispatchTo	Chap 7.5.1	N/A					X	
element	displayName	Chap 3.9.5.3.1	B.2.7.6.1.5.	X	X				
element	displayText	Chap 3.9.5.3	B.2.7.3.3.	X	X	X	X		

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
element	division	Chap 7.5.1	N/A					X	
element	dmAddress	Chap 3.9.5.1	N/A	X	X	X	X		
element	dmAddressItems	Chap 3.9.5.1	N/A	X	X	X	X		
element	dmCode	Chap 3.9.5.1	B.4.2.1.	X	X	X	X	X	X
element	dmEntry	Chap 4.5.1	N/A						X
element	dmIdent	Chap 3.9.5.1	N/A	X	X	X	X		
element	dml	Chap 4.5.1	N/A						X
element	dmlAddress	Chap 4.5.1	N/A						X
element	dmlAddressItems	Chap 4.5.1	N/A						X
element	dmlCode	Chap 4.5.1	N/A						X
element	dmlContent	Chap 4.5.1	N/A						X
element	dmlIdent	Chap 4.5.1	N/A						X
element	dmlRef	Chap 4.5.1	N/A						X
element	dmlRefIdent	Chap 4.5.1	N/A						X
element	dmlStatus	Chap 4.5.1	N/A						X
element	dmodule	Chap 3.2 / Chap 3.9.5	N/A	X	X	X	X		
element	dmRef	Chap 3.9.5.2.1.2	B.7.10.2.	X	X	X	X	X	X
element	dmRefAddressItems	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	dmRefIdent	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	dmStatus	Chap 3.9.5.1	N/A	X	X	X	X		
element	dmTitle	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	documentIncorporation	Chap 3.9.5.3.2	N/A		X				
element	email	Chap 7.5.1	N/A					X	
element	emphasis	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	enterprise	Chap 7.5.1	N/A					X	
element	enterpriseName	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
element	enterpriseUnit	Chap 7.5.1	N/A					X	
element	entityControlNumber	Chap 7.5.1	N/A					X	
element	enumeration	Chap 3.9.5.3.1	B.2.7.6.1.7.	X	X				
element	evaluate	Chap 3.9.5.3	B.2.7.3.5.	X	X	X	X		
element	excludedModification	Chap 3.9.5.1	N/A	X	X	X	X		
element	exportControl	Chap 3.9.5.1.1	Table B-1	X	X	X	X	X	X
element	exportRegistrationCode	Chap 3.9.5.1.1	N/A	X	X	X	X	X	X
element	exportRegistrationStmt	Chap 3.9.5.1.1	Table B-1	X	X	X	X	X	X
element	externalPubCode	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	externalPubIssue	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	externalPubIssueInfo	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	externalPubRef	Chap 3.9.5.2.1.2	B.7.10.3.	X	X	X	X	X	X
element	externalPubRefAddressItems	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	externalPubRefIdent	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	externalPubTitle	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	faxNumber	Chap 7.5.1	N/A					X	
element	firstName	Chap 7.5.1	N/A					X	
element	firstVerification	Chap 3.9.5.1	N/A	X	X	X	X		
element	footnote	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	footnoteRef	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	functionalItemCode	Chap 3.9.5.1	Table B-1	X	X	X	X		
element	functionalItemRef	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	identAndStatusSection	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	identExtension	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	identNumber	Chap 3.9.5.2.1.9	N/A	X			X	X	X
element	incorporation	Chap 3.9.5.3.2	B.2.7.6.2.1.		X				

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
element	incorporationStatus	Chap 3.9.5.3.2	N/A		X				
element	indexFlag	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	infoName	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	inlineSignificantData	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	internalRef	Chap 3.9.5.2.1.2	B.7.10.1.	X	X	X	X	X	X
element	internet	Chap 7.5.1	N/A					X	
element	issueDate	Chap 3.9.5.1	Table B-1 B.7.10.1.	X	X	X	X	X	X
element	issueInfo	Chap 3.9.5.1	B.2.6.1. B.2.6.2. Table B-1 B.7.10.1.	X	X	X	X	X	X
element	jobTitle	Chap 7.5.1	N/A					X	
element	language	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	lastName	Chap 7.5.1	N/A					X	
element	listItem	Chap 3.9.5.2.1.3	B.7.9.1.	X	X	X	X	X	X
element	listItemDefinition	Chap 3.9.5.2.1.3	N/A	X	X	X	X	X	X
element	listItemTerm	Chap 3.9.5.2.1.3	N/A	X	X	X	X	X	X
element	logo	Chap 3.9.5.1	Table B-1	X	X	X	X		
element	manufacturerCode	Chap 3.9.5.2.1.9	B.7.6.2.6.	X			X	X	X
element	mediaIdent	Chap 7.5.1	N/A					X	
element	modification	Chap 3.9.5.1	N/A	X	X	X	X		
element	modificationTitle	Chap 3.9.5.1	N/A	X	X	X	X		
element	name	Chap 3.9.5.2.1.10	B.2.7.6.1.4. B.2.7.6.2.4.	X	X	X	X	X	X
element	notationName	Chap 4.10.2	N/A				X		
element	notationRule	Chap 4.10.2	N/A				X		
element	notationRuleList	Chap 4.10.2	N/A				X		
element	note	Chap 3.9.3	B.7.11.4.	X	X	X	X	X	X

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
element	notePara	Chap 3.9.3	N/A	X	X	X	X	X	X
element	objectPath	Chap 4.10.2	N/A				X		
element	objectUse	Chap 4.10.2	N/A				X		
element	objectValue	Chap 4.10.2	N/A				X		
element	originator	Chap 3.9.5.1	Table B-1	X	X	X	X		
element	para	Chap 3.9.5.2.13.1	N/A	X	X	X	X	X	X
element	partAndSerialNumber	Chap 3.9.5.2.1.9	N/A	X			X	X	X
element	partNumber	Chap 3.9.5.2.7	B.7.6.2.3.	X			X	X	X
element	phoneNumber	Chap 7.5.1	N/A					X	
element	pmCode	Chap 4.9.1	B.4.1.1.	X	X	X	X	X	X
element	pmRef	Chap 3.9.5.2.1.2	B.7.10.3.	X	X	X	X	X	X
element	pmRefAddressItems	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	pmRefIdent	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	pmTitle	Chap 4.9.1	Table B-1	X	X	X	X	X	X
element	policyStatement	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	postalZipCode	Chap 7.5.1	N/A					X	
element	postOfficeBox	Chap 7.5.1	N/A					X	
element	product	Chap 3.9.5.3.3	B.2.7.6.3.2.			X			
element	productAttribute	Chap 3.9.5.3.1	B.2.7.6.1.3.	X					
element	productAttributeList	Chap 3.9.5.3.1	B.2.7.6.1.2.	X					
element	productConfiguration	Chap 3.9.5.1	N/A	X	X	X	X		
element	productCrossRefTable	Chap 3.9.5.3.3	B.2.7.6.3.1.			X			
element	productCrossRefTableRef	Chap 3.9.5.3.1	B.2.7.6.1.8.	X					
element	productSafety	Chap 3.9.5.1	N/A	X	X	X	X		
element	province	Chap 7.5.1	N/A					X	
element	pubMedia	Chap 4.9.1	N/A	X	X	X	X	X	X

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
element	qualityAssurance	Chap 3.9.5.1	N/A	X	X	X	X		
element	quantity	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	quantityGroup	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	quantityTolerance	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	quantityValue	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	randomList	Chap 3.9.5.2.1.3	B.7.9.2.	X	X	X	X	X	X
element	reasonForUpdate	Chap 3.9.5.2.1.1	B.2.6.2. B.3.3.	X	X	X	X		
element	referencedApplicGroup	Chap 3.9.5.3	B.2.7.3.	X	X	X	X		
element	refs	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	remarks	Chap 3.9.5.1	Table B-12 Table B-13 Table B-14 Table B-15	X	X	X	X	X	X
element	responsiblePartnerCompany	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X
element	restrictionInfo	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	restrictionInstructions	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	retrofit	Chap 3.9.5.1	N/A	X	X	X	X		
element	room	Chap 7.5.1	N/A					X	
element	secondVerification	Chap 3.9.5.1	N/A	X	X	X	X		
element	security	Chap 3.9.5.1	B.2.2. Table B-1 B.7.1.	X	X	X	X	X	X
element	sequentialList	Chap 3.9.5.2.1.3	B.7.9.1.	X	X	X	X	X	X
element	serialNumber	Chap 3.9.5.2.1.9	N/A	X			X	X	X
element	shortExternalPubTitle	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
element	shortPmTitle	Chap 4.9.1	Table B-1	X	X	X	X	X	X
element	simplePara	Chap 3.9.5.2.1.10	Table B-1	X	X	X	X	X	X
element	SITA	Chap 7.5.1	N/A					X	

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
element	skillLevel	Chap 3.9.5.1	N/A	X	X	X	X		
element	snsAssy	Chap 4.10.2	N/A				X		
element	snsCode	Chap 4.10.2	N/A				X		
element	snsDescr	Chap 4.10.2	N/A				X		
element	snsRules	Chap 4.10.2	N/A				X		
element	snsSubSubSystem	Chap 4.10.2	N/A				X		
element	snsSubSystem	Chap 4.10.2	N/A				X		
element	snsSystem	Chap 4.10.2	N/A				X		
element	snsTitle	Chap 4.10.2	N/A				X		
element	sourceDmIdent	Chap 3.9.5.1	N/A	X	X	X	X		
element	spanspec	Chap 3.9.5.2.1.6	B.7.7.2.6.	X				X	X
element	state	Chap 7.5.1	N/A					X	
element	street	Chap 7.5.1	N/A					X	
element	structureObjectRule	Chap 4.10.2	N/A				X		
element	structureObjectRuleGroup	Chap 4.10.2	N/A				X		
element	subScript	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	superScript	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	supersedure	Chap 3.9.5.1	Table B-1	X	X	X	X	X	X
element	symbol	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	systemBreakdownCode	Chap 3.9.5.1	N/A	X	X	X	X		
element	techPubBase	Chap 3.9.5.1	N/A	X	X	X	X	X	X
element	techStandard	Chap 3.9.5.1	B.4.2.2.	X	X	X	X		
element	termTitle	Chap 3.9.5.2.1.3	B.7.9.3.	X	X	X	X	X	X

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
element	title	Chap 3.9.5.2.1.5	B.5.3. B.7.4. B.7.7.2.1. B.7.8.1.1. B.7.9. B.7.10.1.	X	X	X	X	X	X
element	unverified	Chap 3.9.5.1	N/A	X	X	X	X		
element	variableRef	Chap 3.9.5.2.10	N/A	X				X	X
element	verbatimText	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
element	zoneRef	Chap 3.9.5.2.1.9	N/A	X			X	X	X
attribute	accessPointNumber	Chap 3.9.5.2.1.9	N/A	X			X	X	X
attribute	accessPointTypeValue	Chap 3.9.5.2.1.9	B.7.12.7.	X			X	X	X
attribute	acronymType	Chap 3.9.5.2.1.10	B.7.12.7.	X	X	X	X	X	X
attribute	align	Chap 3.9.5.2.1.6	B.7.7.3.4.	X				X	X
attribute	alignCaption	Chap 3.9.5.2.1.4	N/A	X			X	X	X
attribute	alignCaptionEntry	Chap 3.9.5.2.1.4	N/A	X				X	X
attribute	allowedNotationFlag	Chap 4.10.2	N/A				X		
attribute	allowedObjectFlag	Chap 4.10.2	N/A				X		
attribute	andOr	Chap 3.9.5.3	B.2.7.3.5.	X	X	X	X		
attribute	answerToEntry	Chap 4.5.1	N/A						X
attribute	applicConfiguration	Chap 3.9.5.3	B.2.7.3.2.	X	X	X	X		
attribute	applicDisplayClass	Chap 3.9.5.3	B.2.7.3.4. B.2.7.3.5.	X	X	X	X		
attribute	applicPropertyIdent	Chap 3.9.5.3	B.2.7.3.4. B.2.7.6.3.3.	X	X	X	X		
attribute	applicPropertyType	Chap 3.9.5.3	B.2.7.3.4. B.2.7.5. B.2.7.6.3.3.	X	X	X	X		
attribute	applicPropertyValue	Chap 3.9.5.3.3	B.2.7.6.3.3.			X			

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
attribute	applicPropertyValues	Chap 3.9.5.3	B.2.7.3.4. B.2.7.5. B.2.7.6.1.3. B.2.7.6.1.7. B.2.7.6.2.6.	X	X	X	X		
attribute	applicRefId	Chap 3.9.5.3	B.2.7.3. B.2.7.4.	X	X	X	X	X	X
attribute	assyCode	Chap 3.9.5.1	B.4.2.1.4.	X	X	X	X	X	X
attribute	authorityDocument	Chap 3.9.5.2.1.11	Table B-1	X	X	X	X	X	X
attribute	authorityName	Chap 3.9.5.2.1.11	N/A	X	X	X	X	X	X
attribute	authorizationIdent	Chap 3.9.5.1	N/A	X	X	X	X		
attribute	captionHeight	Chap 3.9.5.2.1.4	N/A	X			X	X	X
attribute	captionType	Chap 3.9.5.2.1.4	N/A	X			X	X	X
attribute	captionWidth	Chap 3.9.5.2.1.4	N/A	X			X	X	X
attribute	caveat	Chap 3.6	Table B-1 B.7.1.	X	X	X	X	X	X
attribute	changeMark	Chap 3.9.5.2.1.1	B.2.6.2. B.3.3. B.3.3.1.	X	X	X	X	X	X
attribute	changeType	Chap 3.9.5.2.1.1	B.2.6.2.	X	X	X	X	X	X
attribute	char	Chap 3.9.5.2.1.6	B.7.7.2.6.	X				X	X
attribute	charoff	Chap 3.9.5.2.1.6	B.7.7.2.6.	X				X	X
attribute	checkSum	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
attribute	circuitBreakerAction	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X
attribute	circuitBreakerNumber	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X
attribute	circuitBreakerType	Chap 3.9.5.2.1.9	N/A	X	X	X	X	X	X
attribute	colname	Chap 3.9.5.2.1.6	Table B-7 Table B-8	X				X	X
attribute	colnum	Chap 3.9.5.2.1.6	N/A	X				X	X
attribute	color	Chap 3.9.5.2.1.4	B.7.12.7.	X			X	X	X

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
attribute	cols	Chap 3.9.5.2.1.6	B.7.7.2.2.	X				X	X
attribute	colsep	Chap 3.9.5.2.1.6	B.7.7.3.1.	X				X	X
attribute	colwidth	Chap 3.9.5.2.1.6	B.7.7.2.5.	X				X	X
attribute	commercialClassification	Chap 3.9.5.1	B.7.1. B.7.2.	X	X	X	X	X	X
attribute	condRefId	Chap 3.9.5.3.2	N/A		X				
attribute	condTypeRefId	Chap 3.9.5.3.2	N/A		X				
attribute	contactRole	Chap 7.5.1	N/A					X	
attribute	controlIndicatorNumber	Chap 3.9.5.2.1.10	N/A	X			X	X	X
attribute	countryIsoCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	day	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	disassyCode	Chap 3.9.5.1	B.4.2.1.5.	X	X	X	X	X	X
attribute	disassyCodeVariant	Chap 3.9.5.1	B.4.2.1.6.	X	X	X	X	X	X
attribute	dmEntryType	Chap 4.5.1	N/A						X
attribute	dmlType	Chap 4.5.1	N/A						X
attribute	emphasisType	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
attribute	enterpriseCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	exportRegulationCodeType	Chap 3.9.5.1.1	N/A	X	X	X	X	X	X
attribute	exportRegulationType	Chap 3.9.5.1.1	N/A	X	X	X	X	X	X
attribute	exportRole	Chap 3.9.5.1.1	N/A	X	X	X	X	X	X
attribute	extensionCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	extensionProducer	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	footnoteMark	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
attribute	functionalItemNumber	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	functionalItemType	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	governmentAuthority	Chap 3.9.5.1.1	N/A	X	X	X	X	X	X
attribute	id	Chap 3.9.5.2.1.2	Table B-11	X	X	X	X	X	X

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
attribute	incorporationStatus	Chap 3.9.5.3.2	N/A		X				
attribute	indexLevelFour	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
attribute	indexLevelOne	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
attribute	indexLevelThree	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
attribute	indexLevelTwo	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
attribute	infoCode	Chap 3.9.5.1	B.4.2.1.7.	X	X	X	X	X	X
attribute	infoCodeVariant	Chap 3.9.5.1	B.4.2.1.8.	X	X	X	X	X	X
attribute	infoEntityIdent	Chap 3.9.5.2.1.7	B.7.8.1.2.	X	X	X	X	X	X
attribute	internalRefId	Chap 3.9.5.2.1.2	Table B-11	X	X	X	X	X	X
attribute	internalRefTargetType	Chap 3.9.5.2.1.2	Table B-11	X	X	X	X	X	X
attribute	inWork	Chap 3.9.5.1	B.2.6.1. Table B-1	X	X	X	X	X	X
attribute	issueNumber	Chap 3.9.5.1	B.2.6.1. Table B-1	X	X	X	X	X	X
attribute	issueType	Chap 3.9.5.1	B.2.6.2.	X	X	X	X		X
attribute	itemLocationCode	Chap 3.9.5.1	B.4.2.1.9.	X	X	X	X	X	X
attribute	label	Chap 7.5.1	N/A					X	
attribute	languageIsoCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	learnCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	learnEventCode	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	linkActuate	Chap 3.9.5.2.10	N/A	X	X	X	X	X	X
attribute	linkShow	Chap 3.9.5.2.10	N/A	X	X	X	X	X	X
attribute	listDirection	Chap 4.5.1	N/A						X
attribute	listItemPrefix	Chap 3.9.3	B.7.9.2.	X	X	X	X	X	X
attribute	lsarData	Chap 3.9.5.2.1.9	N/A	X			X	X	X
attribute	manufacturerCodeValue	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	mediaLocation	Chap 4.9.1	N/A	X	X	X	X	X	X

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
attribute	modelIdentCode	Chap 3.9.5.1	B.4.1.1.1. B.4.2.1.1.	X	X	X	X	X	X
attribute	modificationType	Chap 3.9.5.1	N/A	X	X	X	X		
attribute	month	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	morerows	Chap 3.9.5.2.1.6	B.7.7.2.4.	X				X	X
attribute	nameend	Chap 3.9.5.2.1.6	B.7.7.2.4.	X				X	X
attribute	namest	Chap 3.9.5.2.1.6	B.7.7.2.4.	X				X	X
attribute	noteType	Chap 3.9.3	N/A	X	X	X	X	X	X
attribute	personPrefix	Chap 7.5.1	N/A					X	
attribute	pmIssuer	Chap 4.9.1	B.4.1.1.2.	X	X	X	X	X	X
attribute	pmNumber	Chap 4.9.1	B.4.1.1.3.	X	X	X	X	X	X
attribute	pmVolume	Chap 4.9.1	B.4.1.1.4.	X	X	X	X	X	X
attribute	pubCodingScheme	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
attribute	pubMediaCode	Chap 4.9.1	N/A	X	X	X	X	X	X
attribute	pubMediaType	Chap 4.9.1	N/A	X	X	X	X	X	X
attribute	quantityGroupType	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
attribute	quantityToleranceType	Chap 3.9.5.2.1.10	N/A	X	X	X	X	X	X
attribute	quantityType	Chap 3.9.5.2.1.10	B.7.12.7.	X	X	X	X	X	X
attribute	quantityUnitOfMeasure	Chap 3.9.5.2.1.10	B.7.12.6.	X	X	X	X	X	X
attribute	reasonForUpdateRefIds	Chap 3.9.5.2.1.1	B.2.6.2.	X	X	X	X	X	X
attribute	receiverIdent	Chap 7.5.1	N/A					X	
attribute	referredFragment	Chap 3.9.5.2.1.2	B.7.10.1.	X	X	X	X	X	X
attribute	reproductionHeight	Chap 3.9.5.2.1.7	N/A	X	X	X	X	X	X
attribute	reproductionScale	Chap 3.9.5.2.1.7	N/A	X	X	X	X	X	X
attribute	reproductionWidth	Chap 3.9.5.2.1.7	N/A	X	X	X	X	X	X
attribute	rowsep	Chap 3.9.5.2.1.6	B.7.7.2. B.7.7.3.2.	X				X	X
attribute	rulesContext	Chap 4.10.2	Para TBD				X		

Table A-3 Elements and Attributes for the appliccrossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
attribute	safetyLabel	Chap 3.9.5.1	N/A	X	X	X	X		
attribute	securityClassification	Chap 3.6	Table B-1 B.7.1. B.7.2.	X	X	X	X	X	X
attribute	senderIdent	Chap 4.5.1	N/A					X	X
attribute	seqNumber	Chap 4.5.1	N/A					X	X
attribute	serialNumberForm	Chap 3.9.5.2.1.9	N/A	X			X	X	X
attribute	serialNumberValue	Chap 3.9.5.2.1.9	N/A	X			X	X	X
attribute	significantParaDataType	Chap 3.9.5.2.1.10	B.7.12.7.	X	X	X	X	X	X
attribute	skillLevelCode	Chap 3.9.5.2.1.9	N/A	X	X	X	X		
attribute	spanname	Chap 3.9.5.2.1.6	B.7.7.2.6.	X				X	X
attribute	subSubSystemCode	Chap 3.9.5.1	B.4.2.1.3.3.	X	X	X	X	X	X
attribute	subSystemCode	Chap 3.9.5.1	B.4.2.1.3.2.	X	X	X	X	X	X
attribute	systemCode	Chap 3.9.5.1	B.4.2.1.3.1.	X	X	X	X	X	X
attribute	systemDiffCode	Chap 3.9.5.1	B.4.2.1.2.	X	X	X	X	X	X
attribute	systemIdentCode	Chap 3.9.5.2.1.4	N/A	X			X	X	X
attribute	tableOfContentType	Chap 3.9.5.2.1.4	N/A	X			X	X	X
attribute	targetTitle	Chap 3.9.5.2.1.2	N/A	X	X	X	X	X	X
attribute	updateHighlight	Chap 3.9.5.2.1.1	N/A	X	X	X	X		
attribute	updateReasonType	Chap 3.9.5.2.1.1	B.7.12.7.	X	X	X	X		
attribute	valign	Chap 3.9.5.2.1.6	B.7.7.3.3.	X				X	X
attribute	valueAllowed	Chap 4.10.2	N/A				X		
attribute	valueForm	Chap 4.10.2	N/A				X		
attribute	valuePattern	Chap 3.9.5.3.1	B.2.7.6.1.3. B.2.7.6.2.3.	X	X				
attribute	variableName	Chap 3.9.5.2.10	N/A	X				X	X
attribute	verbatimStyle	Chap 3.9.5.2.1.10	B.7.12.4.	X	X	X	X	X	X
attribute	verificationType	Chap 3.9.5.1	N/A	X	X	X	X		

Table A-3 Elements and Attributes for the applic crossreftable.xsd, condcrossreftable.xsd, prdcrossreftable.xsd, brex.xsd, ddn.xsd, and dml.xsd Schemas									
Element/ Attribute	**Element/Attribute Name**	**S1000D Chapter**	**Appendix B**	**Applic crossreftable**	**Cond crossreftable**	**Prd crossreftable**	**brex**	**ddn**	**dml**
attribute	volumeNumber	Chap 4.9.1	N/A	X	X	X	X	X	X
attribute	year	Chap 3.9.5.1	N/A	X	X	X	X	X	X
attribute	yearOfDataIssue	Chap 4.5.1	N/A					X	X
attribute	zoneNumber	Chap 3.9.5.2.1.9	N/A	X			X	X	X

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Appendix B
S1000D Schema Set SNIPP Authoring Guidelines for Technical Manuals

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B.1. Scope

This appendix contains the authoring guidelines specific to the SNIPP S1000D PDF publisher and the SNIPP NAVSEA Viewer 2.0. It is not intended to define all the elements to be employed when creating a document. Rather it describes in detail how SNIPP tools process and format particular elements defined by the S1000D Schemas. A basic understanding of XML and an understanding of general PDF and HTML functionality is required. In this appendix, the term "Viewer/Publisher" is used to indicate that the information given is applicable to both the NAVSEA IETM Viewer and the NAVSEA PDF Publisher. The terms "automatically generate" or "automatically generated" are used to indicate the associated item does not need to be specifically authored (e.g. Table of Contents).

B.2. General Information

The following paragraphs describe information that applies to the entire Technical Manual (TM).

B.2.1. Technical Manual Identification Number (TMIN)

The NAVSEA TMINs number does not come from the XML markup; it is pulled from the Contenta property sheet. A technical manual (TM) consists of a primary Publication Module (PM) set up for the TMINs of the TM. Within Contenta, the TMINS number is stored in the Pub ID Number field of the primary PM's property sheet.

B.2.2. Publication Security and Handling

The security and handling markings for the TM as a whole are achieved through the use of the `<security>` element and its attributes within the primary PM for the TM. See Paragraph B.7.1. for information on tagging the `<security>` element.

B.2.3. Screen/Page Headers

Common screen/page headers, also known as viewer bars for IETMs and running heads for PDF, contain the TMINs (see Paragraph B.2.1.), the security classification (see Paragraph B.2.2.) if the level is higher than unclassified, and the handling instructions (see Paragraph B.2.2.) if applicable. The Viewer/Publisher will automatically format and place these items appropriately.

B.2.4. Page Footers (PDF only)

Common page footers, also known as running feet, can contain up to three pieces of data. The Publisher automatically generates the page number in the footer. For TMs with a security classification (see Paragraph B.2.2.) higher than unclassified, the Publisher will automatically format the security marking and place it appropriately. The Publisher will also automatically format and place handling instructions if applicable.

B.2.5. Bookmarks (PDF only)

The Publisher will automatically generate the PDF Bookmarks and the Table of Contents. The bookmarks catalog the principal front matter items (title page, the revision summary/highlights, Table of Contents, list of illustrations, and list of tables), all modules and the principal rear elements (list of acronyms and abbreviations, alphabetic index if used, numerical index of part numbers, reference designation index, and the TMDER sheet). For more information on front and rear matter, see the NAVSEA Information Sets, Chapter 5.N.1.1, NAVSEA specific information sets – Front and Rear Matter. Items that appear in the Table of Contents will also have a bookmark entry.

B.2.6. Publication Change Management

Publication Change Management involves the process of updating and releasing publications with changed, revised, deleted, or reinstated DMs and PMs. The frequency of updating and releasing publications is decided by the project. DMs that are of type `"changed"` have changes marked using change mark elements and attributes. Changes that change the content of elements use the change

markup within those elements. The reasons for any changes to a DM are summarized and recorded in the identification and status section. The reason for update text is used for generation of the Revision Summary of the TM. (See Paragraph B.3.3. for tagging requirements.)

Deleted and changed DMs shall be retained in the CSDB as part of the source history file. At publication, deleted DMs shall not be included in the delivery media to the end-user. All updated TMs will be distributed to the fleet as revisions. Projects must decide what threshhold percentage of changes is too much to be represented by change markers. Endless change markers can make a revision difficult to read. This threshold is then used to decide when a data module becomes totally "revised" and all change marks are removed. Over a manual's life cycle, the change elements and attributes can become unmanageable for the authors. Projects must determine when the DM or PM must be re-baselined with the change elements and attributes removed.

B.2.6.1. Issue Numbering

For every DM release, the attribute 'issueNumber' of the element <issueInfo> must be incremented by one starting with the original Issue 001. Projects should decide whether to use attribute 'inwork' of the element <issueInfo> for draft releases between the formal releases. The attribute 'inwork' gives the inwork number of the unreleased data module and is used to monitor, track, and control intermediate drafts until the final released issue. The initial inwork number shall be set to "01", and shall be incremented with every change to the data module.

B.2.6.2. Change Markup and Reason for Update

Publication Change Management involves using element <reasonForUpdate> on the DM or PM and the attributes 'changeMark', 'changeType', and 'reasonForUpdateRefIds' on the content elements to indicate that a content element has changed from the last time the TM was published. Changed data module status is denoted by setting the attribute 'issueType' of the element <issueInfo> within the identification and status section set to the value "changed" or "rinstate-changed".

All changes, except editorial changes, must be marked, and the reason for update must be given in the DM and PM identification and status section. The reason for update text is used to automatically generate the Revision Summary of the TM. (See Paragraph B.3.3. for tagging requirements.) The reason for update must not be used on Issue 001, or the original issue, of a DM or PM. Changes can only be marked in data modules that are Issue 002 and above, and are of issue type "changed". The element <reasonForUpdate> in publication module status should only be used if specific to the PM. The reason for update of the individual DMs within a PM will roll up to the highlights of the primary PM. Therefore, the reason for updates of the individual DMs should not be duplicated in the reason for update for the PM. Example of a reason for update for a PM would be the addition or deletion of a DM within the PM.

To indicate a change to a markup element (ie the insertion of a new element, the deletion of an element, or the modification of an element), the use of the element <reasonForUpdate> on the DM or PM and the attributes 'changeMark', 'changeType', and 'reasonForUpdateRefIds' on the markup element are used. The attribute 'updateReasonType' of the element <reasonForUpdate> is not supported by the NAVSEA publisher. Projects must decide on whether to tag the attribute 'updateReasonType' for their own use to assist the author in identifying the change as editorial, technical, or a markup only change. The values for the attribute 'changeType' are "add" for new element entries and "modify" for changes to existing data in an element. To indicate a change at word or sentence level, the element

<changeInline> can be used. Projects must decide whether to mark lower level content changes using the element <changeInline>.

At publish time, the author will have the option to select whether to include change marks within the TM.

'changeMark' (O) on dmRef or pmRef, a value of "1" for this attribute indicates that the changeMarks within the DM will be shown. A value of "0" or if the attribute is not used, means that the changeMarks within the DM, although marked, is not to be shown.

'changeMark' (O) on a DM, a value of "1" for this attribute indicates that a change bar or mark (or some other visual representation) is to be displayed next to the entire content of an element being added, deleted or modified. A value of "0" or if the attribute is not used, means that the change, although marked, is not to be physically indicated by a change bar.

B.2.7. Applicability

Applicability is the mechanism to map a unique data module or parts of a data module to a unique end item based on a unique set of parameters. Applicability allows the technical author to specify which parameter and associated data are valid for a particular situation. Applicability settings allow the end-user to tailor the view of their publication by selecting a specific configuration. The parameters are usually associated with the physical configurations of the end item (e.g. ship class, hull, system, component, piece part) but can include other aspects such as modifications, manual change requests (MCR), ship alterations (shipalt), field changes, repair, software configuration and environmental conditions. Applicability capabilities can vary greatly, from a simple annotation placed in the content of a data module to managing the life cycle of applicability which includes product definition, applicability authoring and product configuration tracking.

The applicability mechanism is supported by the applicability annotation (See Paragraph B.2.7.3.) within each data module and by three specific applicability data module types:

- the Applicability Cross-reference Table (ACT) data module (See Paragraph B.2.7.6.1.)
- the Conditions Cross-reference Table (CCT) data module (See Paragraph B.2.7.6.2.)
- the Products Cross-reference Table (PCT) data module (See Paragraph B.2.7.6.3.)

Applicability is applied to each DM and their elements through the applicability annotation placed in the identification and status section of the DM and referenced from the element to which the applicability is applied. The ACT, CCT, and PCT are used to handle the multitude of potential configuration types and reduce the burden of applying and tracking them. The ACT is referenced from the identification and status section of each content DM and the CCT and PCT are referenced from the ACT. To apply applicability filtering during implementation at publish time or display time, the full applicability annotation is required including the referenced ACT, CCT, and PCT data modules.

B.2.7.1. Applicability Filtering

Use of applicability provides a method to filter data modules based on an end-user's configuration. The filtering can occur either at publish time before the manual's distribution or at run-time while the end-user is viewing the manual.

For IETMs, Projects must decide whether to publish individual manuals filtered for a specific applicability with all non-applicable content removed or to publish all applicabilities within the manual and allow the viewer to present filtered applicability based on the user's selection. The NAVSEA Viewer supports both processes. For page-oriented manuals, Projects must decide whether to publish individual manuals filtered to specific applicability with separate TMINS for each published configuration or publish all the

applicabilities within the whole manual and allow the user to determine which data is appropriate for their configuration. The Publisher supports both processes.

B.2.7.1.1. Examples of Applicability Filtering

Scenario with specific applicability annotations: A procedural step specifies that the step information is appropriate for the “Model: Mountain storm Version: MK1” bicycle. The next procedural step is appropriate for the "Model: Brook trekker Version: Mk9" bicycle.

a) For a personalized view of the data, the IETM viewer at run-time could use the applicability annotations and the selected “Mountain storm MK1” bicycle that is being serviced to filter the data module content and only show the procedural step that is appropriate for the “Mountain storm MK1” bicycle.
b) For a separate “Mountain storm MK1” bicycle TMINS manual, the master data module containing the applicability annotations for both bicycle configurations is published to filter or remove the “Brook trekker Mk9” procedural step and only keep the “Mountain storm MK1” step.
c) In a static view with all configurations, both procedural steps would be presented and the maintainer must decide which of the two steps are appropriate for the bicycle being serviced.

B.2.7.2. Applicability Model

The applicability model provides the mechanism to manage applicability throughout the life cycle as it relates to technical data. Development and sustainment of the model involves planning, authoring, and maintenance as the product evolves and changes during its service life. The model includes applicability annotations, ACT, CCT and PCT applicability DMs, and the flow diagrams showing their relationships. For details on tagging the elements and attributes, see Paragraph B.2.7.3. for applicability annotation, Paragraph B.2.7.6.1. for ACT, Paragraph B.2.7.6.2. for CCT, and Paragraph B.2.7.6.3. for PCT.

To develop an applicability model, the author must plan inputs from all data sources to identify configuration attributes and conditions about the product and the planned method of documenting changes or conditions to the product over its life. The product attributes and conditions will be the basis for creating applicability annotations in the data modules. Product attributes are declared and configuration managed in the ACT data module. Conditions are declared and configuration managed in the CCT data module. Just as TMs are configuration managed, the product attributes and conditions must be configuration managed in the ACT, CCT, and PCT. If configuration management is lost, then control of applicability becomes unreliable.

During authoring, the product attributes from the ACT data module and conditions from the CCT data module are used to build the applicability annotations. To build the applicability annotations, it is recommended that authors use the attributes and “storyboard” or layout how applicability is to be applied to an entire DM or to just a portion of the content of the DM and its elements. Best practices suggest creating a flow diagram and testing the model with a few DMs before applying it to the entire TM. Once the model has been decided, document the applicability model process.

As the Product evolves, new product attributes and conditions will be identified and need to be defined. The ACT and CCT data modules and applicability annotions will need to be updated with these new product attributes and conditions. As product instances are maintained throughout their life in the PCT data module, the actual configuration of the product instance will change and need to be updated. Projects must decide to what extent they configuration manage and limit editing access to the product attributes within the ACT, CCT, and PCT.

B.2.7.3. Applicability Annotation within Identification and Status Section

Using the element <referencedApplicGroup> within the element <dmStatus> provides a container for defining applicability annotations that apply to various parts of the data module. Applicability annotations must be defined in the identification and status section and then referenced in the content section where they apply. The applicability annotations are defined using the element <applic> within the element <referencedApplicGroup>. Applicability annotations are applied within the content section by usage of the attribute 'applicRefId' on the context element.

The applicability annotation is constructed using the element <applic> with a set of individual tests which are grouped together to form a computable expression. The computable expression is used for applicability filtering based on the result of evaluating the annotation with a Boolean value of 'true' or 'false'. Each individual test is represented with an element <assert> which specifies the product attribute or condition to test and the values to test against. Each grouping is represented with an element <evaluate> which associates the child elements together along with a logical operation to perform, either an "and" or an "or" operation. Groupings can contain other groupings and individual tests, thus allowing construction of very complicated expressions where needed. Below the element descriptions will be some examples to demonstrate their use.

B.2.7.3.1. Markup Element: <referencedApplicGroup>

Attributes: None

Child element: <applic>

B.2.7.3.2. Markup Element: <applic>

Attributes:

- The following common attributes apply to the element <applic >: 'id' (O), 'changeMark' (O), 'changeType' (O), 'reasonForUpdateRefIds' (O), 'securityClassification' (O), and 'caveat' (O).
- 'applicConfiguration' (O), the type of applicability for a given part used only in IPD data modules. This attribute can have one of the following values:
  - "allowed" applicability indicates which parts can be installed (with conditions or not) at a given function-position on a given product
  - "installed" applicability indicates what part is theoretically installed (actual or scheduled) at a given function-position on a given product
  - "built" applicability indicates what part was installed at a given function-position on a given product when it left the factory
  - "designed" applicability indicates the engineering configuration
  - "manufactured" applicability indicates the manufacturing configuration
  - "supported" applicability indicates the support configuration

Child element: The element <applic> must contain one of the following options for content.

- <displayText>
- <assert> with optional <displayText>.
- <evaluate> with optional <displayText>.
- <expression> with optional <displayText>. (This option is only for use in the process DM).

B.2.7.3.3. Markup Element: <displayText> (O)

Projects must document within their business rules whether to tag <displayText>, the human readable part of applicability mark-up for the author to know the applicability. The publisher will only process the computer processing part of applicability and will suppress the element <displayText>.

Attribute: None

Child element: <simplePara> (M).

B.2.7.3.4. Markup Element: <assert> (O)

The element <assert> provides for a single test of the applicability annotation. The assert annotation specifies the product attribute or condition to test and a set of values and/or ranges to test against. The result of evaluating an assert annotation for applicability filtering will be a Boolean value of 'true' or 'false'.

Attributes:

- 'applicPropertyIdent' (C), for the identifier of either the product attribute (element <productAttribute> attribute 'id' from the ACT data module) or condition (element <cond> attribute 'id' from the CCT data module) to test.
- 'applicPropertyType' (O), indicates whether the attribute 'applicPropertyIdent' value references a product attribute or a condition. Mandatory if attribute 'applicPropertyIdent' is used, otherwise not used. Allowable values are:
  - "prodattr" indicates the attribute 'applicPropertyIdent' references a product attribute
  - "condition" indicates the attribute 'applicPropertyIdent' references a condition
- 'applicPropertyValues' (O), for the values and/or ranges to test against. Two special characters are required to separate values, and these are the tilde [~] used to separate values within a range, and the vertical bar [|] used to separate values and ranges. These two characters cannot be used as part of a value, but other punctuation characters eg slash [/] and hyphen [-], can be used to express values. Mandatory if 'applicPropertyIdent' is used, otherwise not used.
- 'applicDisplayClass' (O), use of the attribute 'applicDisplayClass' is not allowed for NAVSEA TMs.

Child elements: None

B.2.7.3.5. Markup Element: <evaluate>

The element <evaluate> is used to group applicability filtering tests together and provide the logical operation to apply to the test results. The element <evaluate> must be used whenever more than one element <assert> is required to be tested. The element <evaluate> can contain multiple elements <evaluate>, which allow for very complicated applicability annotations to be represented with a simple structure consisting of only two element types. To process the element <evaluate>, all child elements are evaluated each providing a Boolean value of 'true' or 'false'. Then the logical "and" or "or" operation is performed on the results, providing a single Boolean result. A result of the value 'true' means the associated content is valid and will pass through the filter, while result of the value 'false' means the associated content is not valid and filtered out.

Attributes:

- 'andOr' (M), specifies the logical operation to perform on the results of all child elements, the allowable values are:
  - "and", all child element values of true results in the value 'true', otherwise 'false'
  - "or", any child element value of true results in the value 'true', otherwise 'false'
- 'applicDisplayClass' (O), use of the attribute 'applicDisplayClass' is not allowed for NAVSEA TMs.

Child elements:

- <assert> (O), to perform a single test.
- <evaluate> (O), to create a sub-grouping of additional tests.

B.2.7.3.6. Markup Example

The following example illustrates the use of the element <referencedApplicGroup> within element <identAndStatusSection> where the element <evaluate> has a logical "and" operation which means both the "model" and "version" must result in the Boolean value 'true'. The applicability is for two bicycles: Model: Mountain storm, Version: MK1 and Model: Brook trekker, Version: Mk9.

In this example, the applicability annotations would be applied within the content section by usage of the attribute 'applicRefId' on a context element with a reference to the attribute 'id' for element <applic >. The element <displayText> is tagged in this instance but would be filtered out during the publishing process.

```
<identAndStatusSection>
...
   <referencedApplicGroup>
      <applic id="app-0001">
         <displayText>
            <simplePara>Mountain storm Mk1</simplePara>
         </displayText>
         <evaluate andOr="and">
            <assert applicPropertyIdent="model"
            applicPropertyType="prodattr"
            applicPropertyValues="Mountain storm"/>
            <assert applicPropertyIdent="version"
            applicPropertyType="prodattr"
            applicPropertyValues="Mk1"/>
         </evaluate>
      </applic>
      <applic id="app-0002">
         <displayText>
            <simplePara>Brook trekker Mk9</simplePara>
         </displayText>
         <evaluate andOr="and">
            <assert applicPropertyIdent="model"
            applicPropertyType="prodattr"
            applicPropertyValues="Brook trekker"/>
            <assert applicPropertyIdent="version"
            applicPropertyType="prodattr"
            applicPropertyValues="Mk9"/>
```

```
      </evaluate>
    </applic>
  </referencedApplicGroup>
```

B.2.7.4. Referenced Applicability

Applicability annotations are applied within the content section by usage of the attribute 'applicRefId' on the context element. The attribute is a common attribute used in most S1000D schemas. The use of the attribute 'applicRefId' is prohibited in schemas data module list, data dispatch note and comment.

In the example below the applicability annotation is applied to the appropriate content using the attribute 'applicRefId' within different content elements. The applicability is for two bicycles: Model: Mountain storm, Version: MK1 (applicRefId="app-0001") and Model: Brook trekker, Version: Mk9 (applicRefId="app-0002"). First, applicability pertains to two different supplies, where Detergent A applies to the Mountain storm Mk1. Then applicability is applied to two separate procedural step elements reflecting a difference in bike features with the Brook trekker Mk9 having an automatic chain lubricator. The last applicability example applies to separate paragraphs within a procedural step match the use of the detergent to the correct bicycle.

```
<content>
...
   <supplyDescr applicRefId="app-0001" id="sup-0002">
      <name>Detergent A</name>
      <identNumber>
         <manufacturerCode>KZ666</manufacturerCode>
         <partAndSerialNumber>
            <partNumber>BSK-TLST-023-14</partNumber>
         </partAndSerialNumber>
      </identNumber>
      <reqQuantity unitOfMeasure="L">1</reqQuantity>
   </supplyDescr>
   <supplyDescr applicRefId="app-0002" id="sup-0003">
      <name>Detergent B</name>
      <identNumber>
         <manufacturerCode>KZ666</manufacturerCode>
         <partAndSerialNumber>
            <partNumber>BSK-TLST-001-15</partNumber>
         </partAndSerialNumber>
      </identNumber>
      <reqQuantity unitOfMeasure="L">1</reqQuantity>
   </supplyDescr>
   ...
   <proceduralStep applicRefId="appl-001" id="stp-0017">
      <para>Lubricant the chain and wipe with a clean
      cloth.</para>
   </proceduralStep>
   <proceduralStep applicRefId="appl-002" id="stp-0018">
      <para>Verify operation of automatic chain
      lubricator.</para>
   </proceduralStep>

   ...
```

```
      <proceduralStep id="stp-0025">
         <para applicRefId="appl-001" >Use a <internalRef
         internalRefId="sup-0002" internalRefTargetType="supply"
         xlink:actuate="onRequest" xlink:show="replace"
         xlink:href="sup-0002"/> for dry conditions.</para>
         <para applicRefId="appl-002" >Use a <internalRef
         internalRefId="sup-0003" internalRefTargetType="supply"
         xlink:actuate="onRequest" xlink:show="replace"
         xlink:href="sup-0002"/> for dry conditions.</para>
      </proceduralStep>
   </content>
```

B.2.7.5. Additional Applicability Annotation Examples

In the following examples, the different methods of tagging the attributes `'applicPropertyType'` and `'applicPropertyValues'` are provided. The use of the two special characters the tilde [~] and the vertical bar [|] are shown to separate values within a range, and to separate values and ranges.

B.2.7.5.1. Example 1: Applicability Annotation Based on Model, Version, and Maintenance Level Criteria

This applicability annotation indicates that the associated technical data is applicable for Mountain bicycles `"Mountain storm Mk1"` at maintenance level 1 or 2, or `"Brook trekker Mk9"` bicycles. In this example, the difference in attribute `'applicPropertyType'` and `'applicPropertyValues'` are shown. The element `<displayText>` is tagged in this instance but would be filtered out during the publishing process.

```
      <applic>
         <displayText>
            <simplePara>Type: Mountain bicycle (Model: Mountain
            storm Version: Mk1 Maintenance level: 1, 2) or (Model:
            Brook trekker Version: Mk9)</simplePara>
         </displayText>
         <evaluate andOr="and">
            <assert applicPropertyIdent="type"
            applicPropertyType="prodattr"
            applicPropertyValues="Mountain bicycle"/>
            <evaluate andOr="or">
               <evaluate andOr="and">
                  <assert applicPropertyIdent="model"
                  applicPropertyType="prodattr"
                  applicPropertyValues="Mountain storm"/>
                  <assert applicPropertyIdent="version"
                  applicPropertyType="prodattr"
                  applicPropertyValues="Mk1"/>
                  <assert applicPropertyIdent="mntlvl"
                  applicPropertyType="condition"
                  applicPropertyValues="ml01|ml02"/>
               </evaluate>
               <evaluate andOr="and">
                  <assert applicPropertyIdent="model"
                  applicPropertyType="prodattr"
                  applicPropertyValues="Brook trekker"/>
```

```
            <assert applicPropertyIdent="version"
            applicPropertyType="prodattr"
            applicPropertyValues="Mk9"/>
         </evaluate>
      </evaluate>
   </evaluate>
</applic>
```

B.2.7.5.2. Example 2: Applicability Annotation Based on Individual Product Information Criteria

The applicability annotation indicates that the associated technical data is applicable for product numbers "001", "002" and "005" to "010" with no technical conditions or operational conditions needed for consideration and under conditions for product numbers "003" and "004". The use of the two special characters the tilde [~] and the vertical bar [|] are shown to separate values within a range, and to separate values and ranges. The attribute 'applicPropertyType' in the example is shown as "001~002|005~010" and "003~004".

The element <displayText> is tagged in this instance but would be filtered out during the publishing process.

```
<applic>
   <displayText>
      <simplePara>SN: 001-002, 005-010 or (SN: 003-004 MCR
      B: post)</simplePara>
   </displayText>
   <evaluate andOr="or">
      <assert applicPropertyIdent="serialno"
      applicPropertyType="prodattr"
      applicPropertyValues="001~002|005~010"/>
      <evaluate andOr="and">
         <assert applicPropertyIdent="serialno"
         applicPropertyType="prodattr"
         applicPropertyValues="003~004"/>
         <assert applicPropertyIdent="mcr"
         applicPropertyType="condition"
         applicPropertyValues="post"/>
      </evaluate>
   </evaluate>
</applic>
```

B.2.7.6. Specific Applicability Data Module Types

To facilitate lifecycle management of applicability and applicability filtering, three specific data module types contain applicability information in addition to the applicability annotations contained in data modules and publication modules. The Applicability Cross-reference Table (ACT) is the central point of reference for applicability definitions when applicability filtering is required for either customized deliveries or filtering by a viewer. Product attributes are declared and configuration managed in the ACT data module. The Conditions Cross-reference Table (CCT) data module is used to declare conditions other than a product attribute that have an effect on the applicability of data. Conditions are configuration managed in the CCT data module. The Products Cross-reference Table (PCT) is an extension of the ACT for product attributes and CCT for condition values with a repository of all product instances (contains each single physical occurrence of the Product).

Projects must decide what types of properties about the Product become product attributes (in the ACT data module) versus conditions (in the CCT data module). One method of classification is to divide product attributes into properties that are set during manufacturing and conditions into properties that are set after market. Another method is to divide product attributes into properties which the value will not change throughout the service life of the product instance and conditions into properties which the value can change. Within their business rules, Projects must define the product attributes to be populated in the ACT, CCT, and PCT along with a consistent naming and identification scheme for the product attributes and conditions.

Projects which provide ACT, CCT and PCT data modules must state in their business rules whether to provide one instance of each data module type or to segregate the project into multiple instances of each data module type, and the method for segregation. Within their business rules, Projects must decide to what extent they configuration manage and limit editing access to the product attributes. The modification of an existing product attribute can have a significant affect to existing data.

B.2.7.6.1. Applicability Cross-reference Table (ACT) Data Module

The ACT data module is the central point of reference for applicability definitions when applicability filtering is required for either customized deliveries or filtering by a viewer. The ACT data module is used to declare product attributes that can affect applicability of data. Product attributes are properties of the Product that will typically not change throughout the service life of a product instance, such as ship class, hull, system, model, serial number, or part number.

A project can have one ACT data module instance, which provides references to one CCT and one PCT data modules. All data modules and publication modules requiring applicability filtering must reference one ACT data module from the identification and status section of each content DM.

The definition of a product attribute in the ACT data module includes a mandatory unique identifier, name and description as well as optional display name, enumeration and pattern. The unique identifier is used to reference this product attribute from other data modules. The name and description provide help in identifying the product attribute. The display name can be used when generating a human readable applicability annotation for use by the authors. The enumeration and pattern together define the allowable values for a product attribute.

The values that are allowed for a product attribute can be specified with either enumeration (the element `<enumeration>`) or pattern (attribute `'valuePattern'`) or with both. The enumeration specifies a number of discrete values or ranges allowable. For example, the model of bicycle must be `"Brook trekker"` or `"Mountain storm"`, the serial number must be `"001"` thru `"999"`, or the version of bicycle must be `"Mk1"` or `"Mk9"`. The pattern specifies a format that values must adhere. For example, a serial number must be three digits or the version of bicycle must be `"Mk"` followed by either `"1"` or `"9"`. There is some overlap in the capabilities of these two methods but there are also unique capabilities with each. Within their business rules, Projects must define the allowable values for the element `<enumeration>` and determine whether to use the attribute `'valuePattern'` and if used, define the allowable values for the attribute `'valuePattern'`. For consistent configuration, open text shall not be used to populate the product attribute.

B.2.7.6.1.1. ACT Data Module Schema

The ACT DM uses the information code 00W. There are three components of the ACT DM element `<applicCrossRefTable>`:

- Product attributes - element `<productAttributeList>` (M), to define the product attributes

- Reference to the PCT data module - element <productCrossRefTableRef> (O)
- Reference to the CCT data module - element <condCrossRefTableRef> (O)

B.2.7.6.1.2. Markup Element: <productAttributeList> (M)

The element <productAttributeList> contains a list of attributes of the Product. The values for product attributes will typically not change throughout the service life of product instance.

Attributes: None

Child Element: <productAttribute>

B.2.7.6.1.3. Markup Element: <productAttribute> (M)

The element <productAttribute> is used to declare a single attribute of the Product, such as "serial number" or "model".

Attributes:

- The following common attributes apply to the element <productAttribute>: 'id' (O), 'changeMark' (O), 'changeType' (O), and 'reasonForUpdateRefIds' (O).
- 'valuePattern' (O), a pattern specifying the allowable structure for each value in the attribute 'applicPropertyValues' in the <enumeration>. An example would be restricting the allowable values to the characters "Mk" followed by either "1" or "9" (valuePattern="Mk(1|9)").

Child Elements:

- <name> (M)
- <displayName> (O)
- <descr> (O)
- <enumeration> (O)

B.2.7.6.1.4. Markup Element: <name> (M)

The element <name> is the name of the product attribute. This value is displayed by the viewer for the end-user to make selections from the various product attribute values provided within the attribute 'applicPropertyValues'. This value can also assist the technical author in selection of the appropriate product attribute when building an applicability annotation.

Attributes:

- The following common attributes apply to the element <productAttribute>: 'changeMark' (O), 'changeType' (O), and 'reasonForUpdateRefIds' (O).

Child Elements: None

Markup example:

```
<name>Serial number</name>
```

B.2.7.6.1.5. Markup Element: <displayName> (O)

Projects must document within their business rules whether to tag <displayName>, the human readable part of applicability mark-up for the author to know the applicability. The publisher will only process the computer processing part of applicability and suppress the element <displayName>.

Attributes: None

Child Elements: None

Markup example:

```
<displayName>SN</displayName>
```

B.2.7.6.1.6. Markup Element: <descr> (O)

The element <descr> is used to contain further clarification of the meaning of the product attribute. This value can be used to assist the technical author in selection of the appropriate product attribute when building an applicability annotation. Projects must document within their business rules whether to tag <descr>. The publisher will only process the computer processing part of applicability and suppress the element <descr>.

Attributes: None

Child Elements: None

Markup example:

```
<descr>Serial number etched on the bicycle frame</descr>
```

B.2.7.6.1.7. Markup Element: < enumeration> (O)

The element <enumeration> provides the allowable values for the product attribute. The allowable values can be used to assist the technical author in creating applicability annotations. The element <enumeration> is optional and repeatable. If there are multiple values and ranges to define, several methods can be employed, including having a single element <enumeration> with attribute 'applicPropertyValues' representing the entire set of values and ranges or having multiple element <enumeration> with attribute 'applicPropertyValues' representing a single value or range. Within their business rules, Projects must define the allowable values and a consistent method of defining multiple values and ranges. For consistent configuration, open text shall not be used to populate product attribute.

Attribute: 'applicPropertyValues' (M), defines the values and ranges of values that are allowed for this product attribute. If the parent <productAttribute> includes the attribute 'valuePattern', then individual values used in the attribute 'applicPropertyValues' must be compliant to the specified pattern. Two special characters are required to separate values, and these are the tilde [~] used to separate values within a range, and the vertical bar [|] used to separate values and ranges. These two characters cannot be used as part of a value.

Child Elements: None

Markup example:

```
<enumeration applicPropertyValues="Mk1|Mk9"/>
```

B.2.7.6.1.8. PCT and CCT Reference

The elements <productCrossRefTableRef> and <condCrossRefTableRef> provide references to the PCT and CCT DMs. They both use the child element <dmRef> to reference to the PCT or CCT DM associated with the ACT.

B.2.7.6.1.9. Markup Examples

Example 1: Declaration of a product attribute representing the serial number (1B070622) of the bicycle.

```
<productAttribute id="serialNumber">
   <name>Serial number</name>
   <displayName>SN</displayName>
   <descr>Serial number etched on the bicycle frame </descr>
   <enumeration applicPropertyValues="1B070622"/>
</productAttribute>
```

Example 2: Declaration of a product attribute representing the version of the bicycle.

The attribute 'valuePattern' restricts the allowable values to the characters "Mk" followed by either "1" or "9". The element <enumeration> restricts the allowable values to either "Mk1" or "Mk9". In this example the attribute 'valuePattern' and element <enumeration> are overlapping. Only one is needed, although the overlap is not harmful. The element <displayName> is included and is empty which provides a hint that no text is needed.

```
<productAttribute id="version" valuePattern="Mk(1|9)">
   <name>Version</name>
   <displayName></displayName>
   <descr>Version of the bike</descr>
   <enumeration applicPropertyValues="Mk1|Mk9"/>
</productAttribute>
```

Example 3: Declaration of a product attribute representing the version rank of the bicycle.

The attribute 'valuePattern' restricts the allowable values to a single digit. The element <enumeration> further restricts the allowable values to "1" thru "3". This illustrates a case where both the attribute 'valuePattern' and element <enumeration> contribute to limiting the allowable values.

```
<productAttribute id="versrank" valuePattern="\d">
   <name>Version rank</name>
   <displayName>series</displayName>
   <descr>Version rank</descr>
   <enumeration applicPropertyValues="1~3"/>
</productAttribute>
```

Example 4: Content section from the ACT for the bicycle sample data modules and combines the above examples.

Four product attributes are declared as well as references to the PCT and CCT data modules.

```
<applicCrossRefTable>
   <productAttributeList>
      <productAttribute id="serialno">
         <name>Serial number</name>
         <displayName>SN</displayName>
         <descr>Serial number etched on the bicycle
         frame</descr>
         <enumeration applicPropertyValues="1B070622"/>
      </productAttribute>
      <productAttribute id="model" valuePattern=".*">
         <name>Model</name>
         <displayName></displayName>
         <descr>Model of the bike</descr>
         <enumeration applicPropertyValues="Brook
         trekker|Mountain storm"/>
      </productAttribute>
      <productAttribute id="version" valuePattern="Mk(1|9)">
         <name>Model</name>
         <displayName></displayName>
         <descr>Model of the bike</descr>
         <enumeration applicPropertyValues="Mk1|Mk9"/>
      </productAttribute>
```

```
      <productAttribute id="versrank" valuePattern="\d">
        <name>Version rank</name>
        <displayName>series</displayName>
        <descr>Version rank</descr>
        <enumeration applicPropertyValues="1~3"/>
      </productAttribute>
    </productAttributeList>
    <productCrossRefTableRef>
      <dmRef>
        <dmRefIdent>
          <dmCode modelIdentCode="S1000DBIKE"
          systemDiffCode="AAA" systemCode="D00"
          subSystemCode="0" sub-subsystemCode="0" assyCode="00"
          disassyCode="00" disassyCodeVariant="AA"
          infoCode="00P" infoCodeVariant="A"
          itemLocationCode="D"/>
        </dmRefIdent>
      </dmRef>
    </productCrossRefTableRef>
    <condCrossRefTableRef>
      <dmRef>
        <dmRefIdent>
          <dmCode modelIdentCode="S1000DBIKE"
          systemDiffCode="AAA" systemCode="D00"
          subSystemCode="0" sub-subsystemCode="0" assyCode="00"
          disassyCode="00" disassyCodeVariant="AA"
          infoCode="00Q" infoCodeVariant="A"
          itemLocationCode="D"/>
        </dmRefIdent>
      </dmRef>
    </condCrossRefTableRef>
  </applicCrossRefTable>
```

B.2.7.6.2. Applicability - Conditions Cross-Reference Table

The Conditions Cross-reference Table (CCT) data module is used to declare conditions that have an effect on the applicability of data. A condition is any property other than a product attribute that has an effect on the applicability of data. Conditions differ from product attributes in that values of a condition are more likely to change throughout service life of a product instance or are often not tracked against a product instance.

The CCT data module is divided into three conditions:

- Technical conditions (i.e. modification, MCR, shipalt, field change, technical variance document)
- Operational conditions (i.e. normal, emergency, pre-underway)
- Environmental conditions (i.e. ocean spray, icy, chemical)

B.2.7.6.2.1. CCT Data Module Schema

The CCT DM uses the information code 00Q. There are three components of the CCT data module element `<condCrossRefTable>`:

- Condition type list - element <condTypeList> (M), to define common types of conditions
- Condition list - element <condList> (M), to define specific conditions
- Incorporation status list - element <incorporation> (O), use of the element <incorporation> is not allowed for NAVSEA TMs

B.2.7.6.2.2. Markup Element: <condTypeList>

The element <condTypeList> contains a list of common types of conditions which will be used as a basis for defining specific conditions.

Attributes: None

Child Elements: <condType> (M)

B.2.7.6.2.3. Markup Element: <condType>

The element <condType> is used to define a single condition type of the Product.

Attributes:

- The following common attributes apply to the element <condType>: 'id' (O), 'changeMark' (O), 'changeType' (O), and 'reasonForUpdateRefIds' (O).
- 'valuePattern' (O), a pattern specifying the allowable structure for each value in the attribute 'applicPropertyValues' in the <enumeration>. An example would be restricting the allowable values to the characters "Mk" followed by either "1" or "9" (valuePattern="Mk(1|9)").

Child Elements:

- <name> (M)
- <descr> (O)
- <enumeration> (M)

B.2.7.6.2.4. Markup Element: <name> (M)

The element <name> is the name of the condition type. This value is displayed by the viewer for the end-user to make selections from the various product attribute values provided within the attribute 'applicPropertyValues'. This value can assist the technical author in selection of the appropriate condition type when defining a condition.

Attributes:

- The following common attributes apply to the element <productAttribute>: 'changeMark' (O), 'changeType' (O), and 'reasonForUpdateRefIds' (O).

Child Elements: None

Markup example:

```
<name>Field Change</name>
```

B.2.7.6.2.5. Markup Element: <descr> (O)

The element <descr> is used to contain further clarification of the meaning of the condition type. This value can be used to assist the technical author in selection of the appropriate condition type when defining a condition. Projects must document within their business rules whether to tag <descr>. The publisher will only process the computer processing part of applicability and suppress the element <descr>.

Attributes: None

Child Elements: None

Markup example:

```
<descr>Standard Field Change</descr>
```

B.2.7.6.2.6. Markup Element: <enumeration> (M)

The element <enumeration> provides the allowable values for the condition type. The allowable values can be used to assist the technical author in creating applicability annotations. The element <enumeration> is mandatory and repeatable. If there are multiple values and ranges to define, several methods can be employed, including having a single element <enumeration> with attribute 'applicPropertyValues' representing the entire set of values and ranges or having multiple element <enumeration> with attribute 'applicPropertyValues' representing a single value or range. Within their business rules, Projects must define the allowable values and a consistent method of defining multiple values and ranges. For consistent configuration, open text shall not be used to populate product attribute.

Attribute: 'applicPropertyValues' (M), defines the values and ranges of values that are allowed for this condition type. If the parent <condType> includes the attribute 'valuePattern', then individual values used in the attribute 'applicPropertyValues' must be compliant to the specified pattern. Two special characters are required to separate values, and these are the tilde [~] used to separate values within a range, and the vertical bar [|] used to separate values and ranges. These two characters cannot be used as part of a value.

Child Elements: None

Markup example:

```
<enumeration applicPropertyValues="FC20090524|FC20120415"/>
```

B.2.7.6.2.7. Markup Example

The following markup example illustrates the definition of the CCT with two condition type "MCR" with conditions "MCR-MS-13-0100" and "MCR-BT-13-020". The attribute 'applicPropertyValues' for element <enumeration> is set to "post" meaning installed or as-built condition. Applying "MCR-MS-13-0100" to a product instance for a specific serial number of the Mountain storm Mk1 bicycle will mean the MCR was installed on that instance of the bike.

```
<condCrossRefTable>
   <condTypeList>
      <condType id="MCR">
         <name>Manual Change Request</name>
         <descr>Standard Manual Change Request </descr>
         <enumeration applicPropertyValues="post"/>
      </condType>
   </condTypeList>
      <condList>
         <cond condTypeRefId="MCR" id="MCR-BT-13-0200">
            <name>MCR - Chain guard for Brook trekker</name>
            <descr>MCR for the installation of the chain guard for
            Brook trekker</descr>
         </cond>
         <cond condTypeRefId="MCR" id="MCR-MS-13-0100">
            <name>MCR - Chain guard for Mountain storm</name>
            <descr>MCR for the installation of the chain guard for
            Mountain storm</descr>
```

```
          </cond>
        </condList>
      </condTypeList>
    </condCrossRefTable>
```

B.2.7.6.3. Applicability - Products Cross-reference Table

The Products cross-reference table (PCT) is an extension of the ACT for product attributes and CCT for condition values with a repository of all product instances (contains each single physical occurrence of the Product). A product instance is an actual physical product for example a Brook trekker Mk9 bicycle with serial number 1B070643. The product instances might be by ship class, hull, or system. The PCT for a ship class would include all the hulls within that class. If a system was applicable to several ship classes, then each ship class and their hulls would be included in the PCT.

The definition of a product instance in the PCT data module includes a list of assignments of actual values to product attributes and conditions for the product instance. Each assignment using the element <assign> must include three pieces of information:

- a reference to the product attribute or condition using attribute 'applicPropertyIdent'
- an indicator whether the attribute is a product attribute or condition using attribute 'applicPropertyType'
- the actual value using attribute 'applicPropertyValue'

Projects shall define in their business rules which product instances will be contained in a PCT DM and how they will configuration manage the list of product instances and associated values for product attributes and conditions. Many Projects maintain systems to track the configuration of their product instances. These systems are often considered the authoritative source for configuration information and these Projects may not want to also maintain a PCT data module. In cases such as this, the PCT data module can be generated from the configuration management authoritative source and used as a transient transfer mechanism in the common source database. Projects must decide on the mechanism to populate and maintain the PCT DM, (e.g. manually or automatically from the configuration management authoritative source). If Projects decide to use a system to automatically populate the PCT, Projects shall publish a static issue of the PCT DM with the IETM.

B.2.7.6.3.1. PCT Data Module Schema

The PCT DM uses the information code 00P. There is one component of the PCT data module content element, <productCrossRefTable>, which is the List of product instances using the element <product> (M).

B.2.7.6.3.2. Markup Element: <product> (M)

The element <product> identifies an individual product instance.

Attributes: The following common attributes apply to the element <product>: 'id' (O), 'changeMark' (O), 'changeType' (O), and 'reasonForUpdateRefIds' (O).

Child Elements: <assign> (O)

B.2.7.6.3.3. Markup Element: <assign> (O)

The element <assign> associates a value with a product attribute or condition.

Attributes:

- 'applicPropertyIdent' (O), this attribute value must match the attribute 'id' from either the ACT element <productAttribute> of a product attribute or from the CCT element <cond> for a condition.
- 'applicPropertyType' (O), indicate whether the attribute 'applicPropertyIdent' value is a product attribute by using the value "prodattr" or a condition by using the value "condition".
- 'applicPropertyValue' (M), indicate the actual value assigned to the referenced product attribute or condition. The value cannot contain the characters tilde [~] or vertical bar [|] as these characters will be interpreted as separators in other attributes elsewhere in the applicability model.

Child Elements: None

B.2.7.6.3.4. Markup Example

The following markup example illustrates the definition of three product instances with product attributes "serialno", "model", "version" and "versrank", and condition "mcr".

```
<productCrossRefTable>
   <product>
      <assign applicPropertyIdent="serialno"
      applicPropertyType="prodattr"
      applicPropertyValue="1B070643"/>
      <assign applicPropertyIdent="model"
      applicPropertyType="prodattr"
      applicPropertyValue="Brook trekker"/>
      <assign applicPropertyIdent="version"
      applicPropertyType="prodattr"
      applicPropertyValue="Mk9"/>
      <assign applicPropertyIdent="versrank"
      applicPropertyType="prodattr"
      applicPropertyValue="2"/>
      <assign applicPropertyIdent="MCR-BT-13-0273"
      applicPropertyType="condition"
      applicPropertyValue="post"/>
   </product>
   <product>
      <assign applicPropertyIdent="serialno"
      applicPropertyType="prodattr"
      applicPropertyValue="1B070644"/>
      <assign applicPropertyIdent="model"
      applicPropertyType="prodattr"
      applicPropertyValue="Brook trekker"/>
      <assign applicPropertyIdent="version"
      applicPropertyType="prodattr"
      applicPropertyValue="Mk9"/>
      <assign applicPropertyIdent="versrank"
      applicPropertyType="prodattr"
      applicPropertyValue="1"/>
      <assign applicPropertyIdent=" MCR-BT-13-0200"
      applicPropertyType="condition"
      applicPropertyValue="post"/>
   </product>
```

```
   <product>
      <assign applicPropertyIdent="serialno"
      applicPropertyType="prodattr"
      applicPropertyValue="1B070701"/>
      <assign applicPropertyIdent="model"
      applicPropertyType="prodattr"
      applicPropertyValue="Mountain storm"/>
      <assign applicPropertyIdent="version"
      applicPropertyType="prodattr"
      applicPropertyValue="Mk1"/>
      <assign applicPropertyIdent="versrank"
      applicPropertyType="prodattr"
      applicPropertyValue="1"/>
      <assign applicPropertyIdent=" MCR-MS-13-0150"
      applicPropertyType="condition"
      applicPropertyValue="post"/>
   </product>
</productCrossRefTable>
```

B.2.7.7. Comprehensive Markup Example

The following example illustrates how the components of applicability work together to build an applicability annotation from the technical authoring viewpoint.

> **Note:** This example illustrates a manual process for finding the information needed to build an applicability annotation. An authoring tool can automate parts of this process.

In this scenario, a technical author has been instructed to add an applicability annotation to the content of an element <proceduralStep> within a procedural data module. The applicability annotation is to represent the condition where the serial number is between "1B070643" and "1B070699" and manual change request (MCR) “MS-13-0100” has been installed. The technical author must first identify the product attribute or condition identifiers associated with the serial number and the MCR “MS-13-0100”. The referenced ACT data module is located by looking in the status section of the procedural data module for the element <applicCrossRefTableRef>.

```
<applicCrossRefTableRef>
   <dmRef>
      <dmRefIdent>
         <dmCode modelIdentCode="S1000DBIKE"
         systemDiffCode="AAA" systemCode="D00"
         subSystemCode="0" subSubSystemCode="0"
         assyCode="00" disassyCode="00"
         disassyCodeVariant="AA" infoCode="00W"
         infoCodeVariant="A" itemLocationCode="D"/>
      </dmRefIdent>
   </dmRef>
</applicCrossRefTableRef>
```

Within the ACT data module, the technical author looks for product attributes (element <productAttribute>) which represent the serial number and the MCR “MS-13-0100”. The child element <name> and element <descr> provide the information needed to make this decision. Within the ACT data module, the following product attribute declaration is found for the serial number:

```
<productAttribute id="serialno">
```

```
   <name>Serial number</name>
   <displayName>SN</displayName>
   <descr>Serial number etched on the frame</descr>
</productAttribute>
```

The technical author notes the value "serialno" of attribute 'id', which is needed to build the applicability annotation. No product attribute is found which represents MCR "MS-13-0100", so the technical author must next look in the CCT data module for a condition representing MCR "MS-13-0100". The referenced CCT data module is located by looking in the content section of the ACT data module for the element <condCrossRefTableRef>.

```
<condCrossRefTableRef>
   <dmRef>
      <dmRefIdent>
         <dmCode modelIdentCode="S1000DBIKE"
         systemDiffCode="AAA" systemCode="D00"
         subSystemCode="0" subSubSystemCode="0"
         assyCode="00" disassyCode="00"
         disassyCodeVariant="AA" infoCode="00Q"
         infoCodeVariant="A" itemLocationCode="D"/>
      </dmRefIdent>
   </dmRef>
</condCrossRefTableRef>
```

Within the CCT data module, the technical author looks for conditions (element <cond>) which represent the MCR "MS-13-0100". The child element <name> and element <descr> provide the information needed to make this decision. Within the CCT data module, the following condition declaration is found for the MCR "MS-13-0100":

```
<cond condTypeRefId="mcr" id="mcr-MS-13-0100">
   <name>MCR MS-13-0100 - Chain guard</name>
   <descr>MCR MS-13-0100 for the installation of the chain
   guard</descr>
</cond>
```

The technical author notes the value "mcr-MS-13-0100" of attribute 'id', which is needed to build the applicability annotation. The applicability annotation can now be constructed using the product attribute and condition identifiers from the ACT and CCT data modules and the known values to test for. The following applicability annotation is added to the status section element <referencedApplicGroup> of the procedural data module:

```
<referencedApplicGroup>
...
   <applic id="appl-006">
      <evaluate andOr="and">
         <assert applicPropertyIdent="serialno"
         applicPropertyType="prodattr"
         applicPropertyValues="1B070643~1B070699"/>
         <assert applicPropertyIdent="mcr-MS-13-0100"
         applicPropertyType="condition"
         applicPropertyValues="MS-13-0100"/>
      </evaluate>
   </applic>
```

```
...
</referencedApplicGroup>
```

Finally, the applicability annotation is applied to the appropriate content within the procedural data module:

```
<proceduralStep applicRefId="appl-006">
...
</proceduralStep>
```

B.3. Front Matter

This section details the front matter elements of an S1000D technical manual that is compliant with NAVSEA requirements found in MIL-DTL-24784C. Front matter consists of the following items that are designated mandatory or optional by NAVSEA. Mandatory items are denoted with an (M); optional items are denoted with an (O).

- Title Page or IETM ID screen (M)
- Certification Sheet (O)
- Revision Summary (M if TM is a revision)
- Table of contents (M)
- List of illustrations (M)
- List of tables (M)
- How to use this ETM (O)
- Foreword (M)
- Safety Summary (M)
- Reference publications (O)

B.3.1. Title Screen/Page

Information for the title screen/page comes from elements in the primary PM. Figure B-1 shows a sample title screen as it is formatted by the IETM Viewer. Figure B-2 shows a sample title page as it is formatted by the PDF Publisher. An Information Code Variant (ICV) is not to be used for the title screen/page since the Viewer/Publisher will automatically generate and format the title screen/page using the elements in Table B-1. Title screen/page items should be tagged as detailed in Table B-1; however, current Viewer/Publisher products may require workarounds to place items on the screen/page. Contact NSWC Carderock for details.

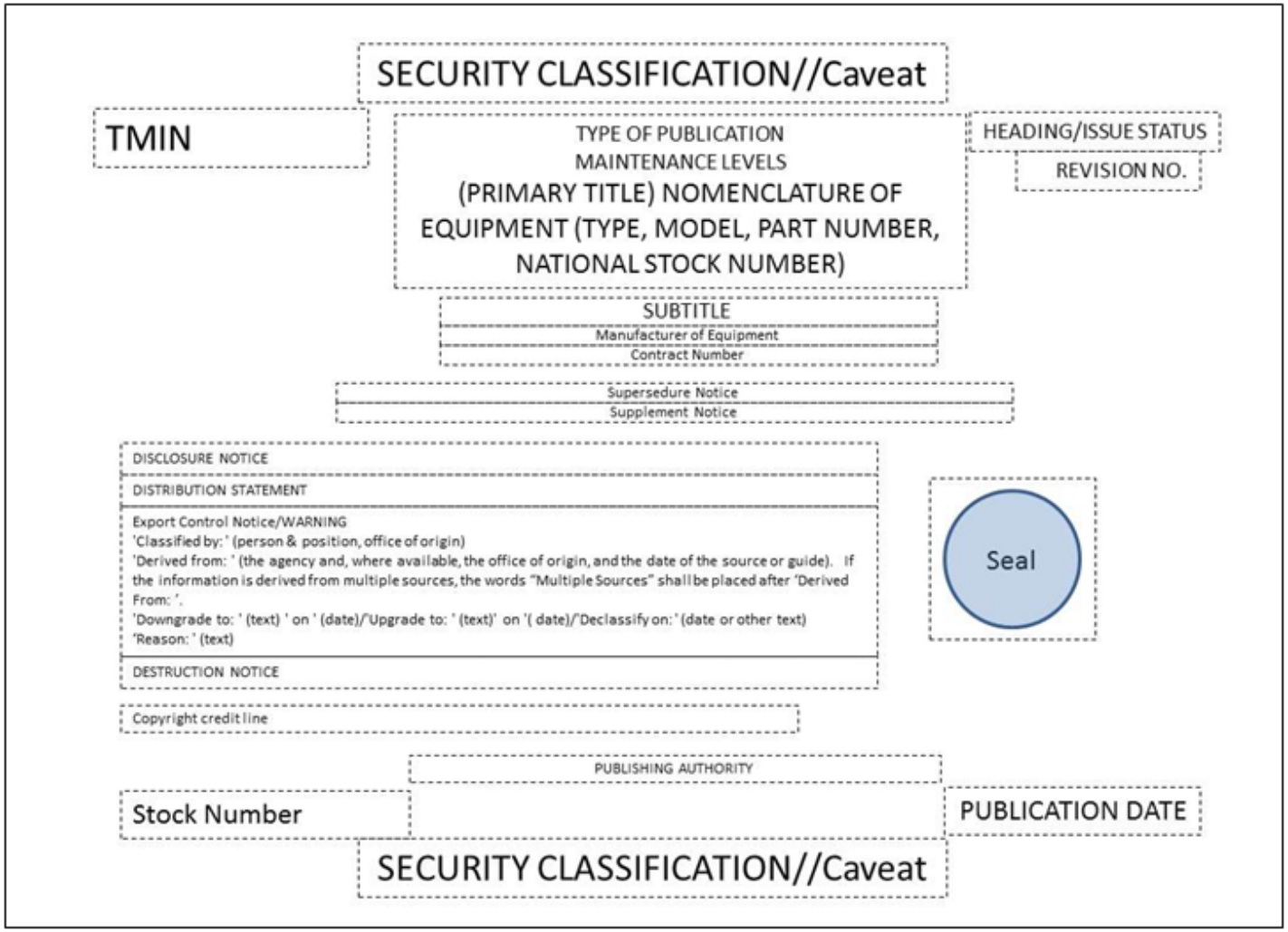

Figure B-1 Sample IETM Title Screen

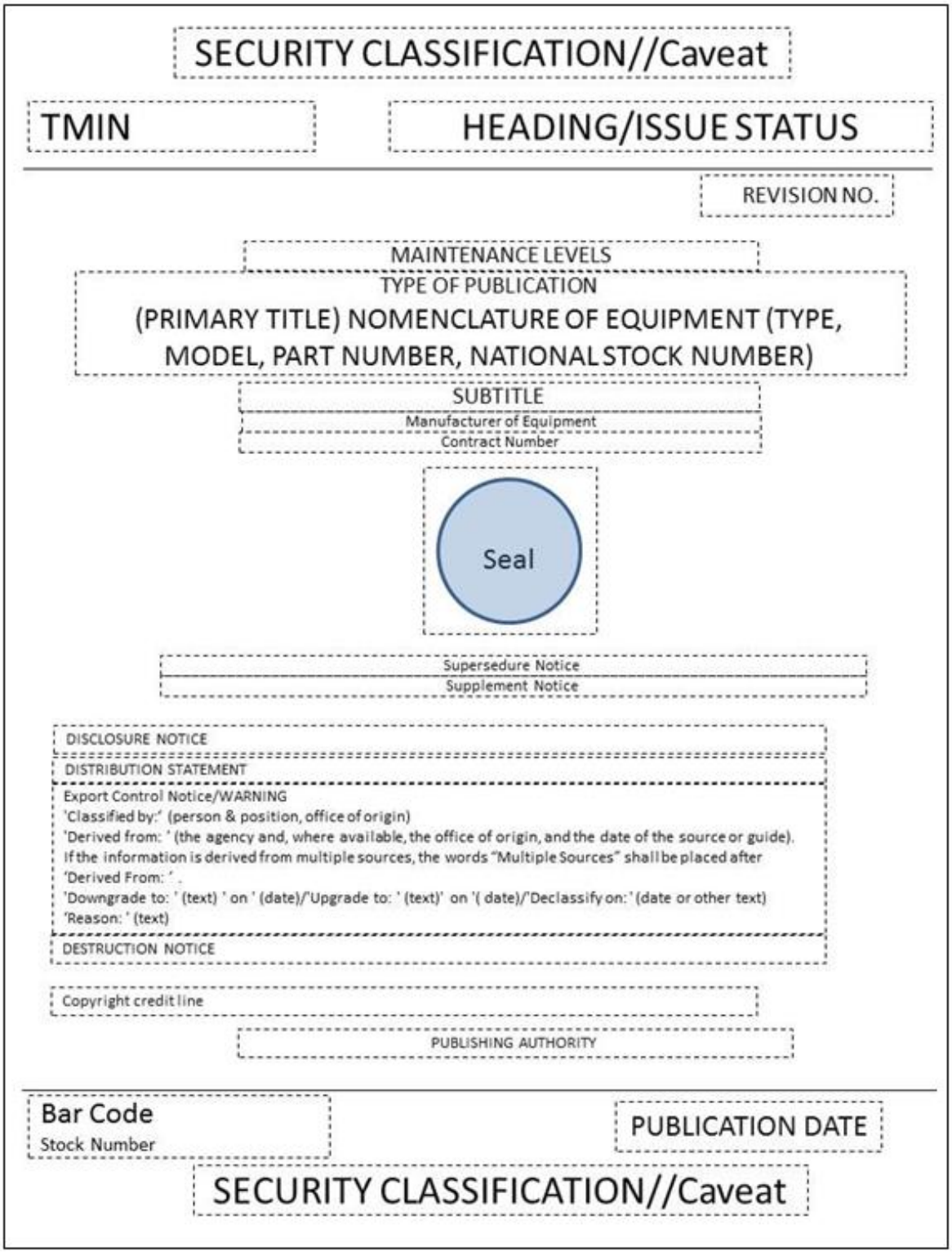

Figure B-2 Sample PDF Title Page

Table B-1 Title Page Item Tagging Elements and Attributes

Title Page Item	Tagging Elements/Attributes
Security Classification (M)	<pm>/<identAndStatusSection>/<pmStatus>/<security>/'securityClassification' Attribute 'securityClassification' Values "01" - UNCLASSIFIED "03" - CONFIDENTIAL "04" - SECRET "05" - TOP SECRET
Caveat (O)	<pm>/<identAndStatusSection>/<pmStatus>/<security>/'caveat' Attribute 'caveat' Values "cv51" - For Official Use Only "cv57" - Restricted Data "cv58" - Formerly Restricted Data "cv59" - NOFORN
TMIN (M)	Taken from the Contenta Property sheet
Heading/Issue Status (O)	<pm>/<identAndStatusSection>/<pmAddress>/<pmIdent>/<issueinfo>/'inWork' Attribute 'inWork' Values "91" - REVIEW DRAFT COPY "92" - DRAFT "93" - FINAL DRAFT "94" - PRELIMINARY
Revision No. (O)	<pm>/<identAndStatusSection>/<pmAddress>/<pmIdent>/<issueInfo>/'issueNumber'

Title Page Item	Tagging Elements/Attributes
PM Title Items	<pm>/<identAndStatusSection>/<pmAddress>/<pmAddressItems>/<pmTitle> The element <pmTitle> is used to tag the type of publication, the applicable maintenance level(s), and the primary title of the TM. They MUST be authored in one element <pmTitle> in the following order: Type of Publication, Maintenance Levels (if required), and Primary Title.
Type of Publication (M)	
Maintainance Levels (O)	
(Primary Title) (M) Nomenclature of Equipment (Type, Model, Part Number, National Stock Number)	
Subtitle (O)	<pm>/<identAndStatusSection>/<pmAddress>/<pmAddressItems>/<shortPmTitle>
Manufacturer of Equipment (O)	<pm>/<identAndStatusSection>/<pmStatus>/<originator>/<enterpriseName>
Contract Number (O)	<pm>/<identAndStatusSection>/<pmStatus>/<dataRestrictions>/'authorityDocument'
NAVSEA Seal	The NAVSEA Seal is automatically generated by the Viewer/Publisher. Use of the element <logo> is prohibited.
Supersedure Notice (O)	<pm>/<identAndStatusSection>/<pmStatus>/<dataRestrictions>/<restrictionInstructions>/<supersedure>

Title Page Item	Tagging Elements/Attributes
Supplement Notice (O)	<pm>/<identAndStatusSection>/<pmStatus>/<dataRestrictions>/<restrictionInstructions>/<supersedure> If needed, this item is authored with the supersedure in the element <supersedure>. The supersedure notice, if used, preceeds the supplement notice. The supplement notice MUST start with the text "Supplement Notice".
Disclosure Notice (O)	<pm>/<identAndStatusSection>/<pmStatus>/<dataRestrictions>/<restrictionInstructions>/<dataDisclosure> The author must precede the text of the disclosure notice with the phrase "Disclosure Notice: ".
Distribution Statement (M)	<pm>/<identAndStatusSection>/<pmStatus>/<dataRestrictions>/<restrictionInstructions>/<dataDistribution> The author must precede the text of the distribution notice with the phrase "Distribution Statement _: ", where "_" is the letter corresponding to the distribution statement used.
Export Control Notice/Warning (O)	<pm>/<identAndStatusSection>/<pmStatus>/<dataRestrictions>/<restrictionInstructions>/<exportControl>/<exportRegistrationStmt>/<simplePara> The author must precede the text of the export control notice with the phrase "Warning: ".

Title Page Item	Tagging Elements/Attributes
Classification Authority Block Items	• The Classification Authority Block is ONLY used for classified TMs. • These title screen/page items contain the classification information including classifier, derivation, downgrade date, upgrade date, declassification date, and reason. • These items are authored in the `<exportControl>/<exportRegistrationStmt>/<simplePara>` element and are preceded by the Export Control Notice/Warning. • The “Classified by: ” and the “Derived from: ” items are mandatory for classified TMs, and the “Classified by: ” item MUST be authored before the “Derived from:” item. • The “Downgrade to: ”, “Upgrade to: ”, and “Declassify on: ” are optional items. There may only be ONE of these items. • If, and only if, one of the optional “Downgrade to: ”, “Upgrade to: ”, or “Declassify on: ” items is used, there MUST be a “Reason: ” item. If used, the “Downgrade to: ”, “Upgrade to: ”, or “Declassify on: ” item MUST be authored before the “Reason: ” item.

Title Page Item	Tagging Elements/Attributes
"Classified by: " (person & position, office of origin) (C) "Derived from: " (text) (C)	<pm>/<identAndStatusSection>/<pmStatus>/<dataRestrictions>/<restrictionInstructions>/<exportControl>/<exportRegistrationStmt>/<simplePara> The text for "Classified by: " MUST begin with "Classified by: ". The authored text that follows should contain the classifier information. The text for "Derived from: " MUST begin with "Derived from: ". The authored text that follows should give the agency and, where available, the office of origin, and the date of the source or guide.
"Downgrade to: " (text) " on " (date) (O) "Upgrade to: " (text)" on "(date) (O) "Declassify on: " (date or other text) (O) "Reason: " (text) (O)	<pm>/<identAndStatusSection>/<pmStatus>/<dataRestrictions>/<restrictionInstructions>/<exportControl>/<exportRegistrationStmt>/<simplePara> If needed, the text for "Downgrade to: " (text) " on " (date) MUST begin with "Downgrade to: ". The authored text that follows should be the downgraded classification level, followed by the text " on "(including the spaces before and after the word), followed by the date of the downgrade. If there is a "Downgrade to: " item, there cannot be either an "Upgrade to: " item or a "Declassify on: " item. If needed, the text for "Upgrade to: " (text)" on "(date) MUST begin with "Upgrade to: ". The authored text that follows should be the upgraded classification level, followed by the word " on ", followed by the date of the upgrade. If there is an "Upgrade to: " item, there cannot be either a "Downgrade to: " item or a "Declassify on: " item. If needed, the text for "Declassify on: " (date or other text) MUST begin with "Declassify on: ". The authored text that follows should be the date of declassification or other indicated text. If there is a "Declassify on: " item, there cannot be either an "Upgrade to: " item or a "Downgrade to: " item. If, and only if, "Downgrade to: ", "Upgrade to: ", or "Declassify on: " is used, "Reason: " must also be used. The text for this item MUST begin with "Reason: ". The authored text that follows should contain the reason for downgrade, upgrade, or declassification.

Title Page Item	Tagging Elements/Attributes
Destruction Notice (O)	<pm>/<identAndStatusSection>/<pmStatus>/<dataRestrictions>/<restrictionInstructions>/<dataDestruction> This is required when the TM is marked with distribution statement B, C, D, E, F, or X. The author must precede the text of the destruction notice with the phrase “Destruction Notice: ”.
Copyright Credit Line (O)	<pm>/<identAndStatusSection>/<pmStatus>/<dataRestrictions>/<restrictionInfo>/<copyright>/<copyrightPara>
Publishing Authority (M)	<pm>/<identAndStatusSection>/<pmStatus>/<responsiblePartnerCompany>/<enterpriseName>
Stock Number (M)(IETM and PDF)/Bar Code (PDF only)	<pm>/<identAndStatusSection>/<pmStatus>/<functionalItemCode> Example of the the stock number format to be used: 0910-LP-111-8961. The Viewer/Publisher will automatically generate the label “NSN: “.
Publication Date (M)	<pm>/<identAndStatusSection>/<pmAddress>/<pmAddressItems>/<issueDate>

B.3.2. Certification Sheet

There are two methods for including the certification sheet in the Front Matter of an IETM. Only the first method (Method One) is allowed for PDF TMs.

- In Method One, a Certification Sheet Data Module must be identified and inserted in the Front Matter of the TM. The Certification Sheet Data Module will be developed using a descriptive DM using an ICV of 023C and it shall reflect the example: DMC YOURPROJ-AAA-A00-41-0001-00AAA-023C-A. A graphic of the Certification Sheet shall be the only information in the Certification Sheet Data Module. The graphic's Information Control Number (ICN) shall follow the guidelines of the project's ICNs layout with the exception of the Unique Identifier, which must be CERTS. The Certification Sheet shall reflect the example: ICN-YOURPROJ-A-A00410001-A-37008-CERTS-A-001-01. See Para B.5.1. for additional information for coding the ICN.
- In Method Two, the Certification Sheet is named **CertificationSheet.pdf** (this is case sensitive with no space) and and is put into the figure folder of the published IETM. The Certification Sheet is inserted into the Front Matter during the publish event. The Certification Sheet is not to be given a figure number and will not appear in the list of illustrations.

B.3.3. Revision Summary/Highlights

The revision summary/highlights are generated automatically by the publisher from the element `<reasonForUpdate>` in the identification and status section of each DM and PM. The revision summary contains a listing of DMs, by title, that has been revised with a brief description of the major changes. The titles are linked to the DM containing the revised information. When a subsequent revision is prepared, the previous revision summary is removed and only the new revision information is provided. (See Paragraph B.2.6. for additional information on tagging changes in DMs and PMs.)

Since a DM and PM may contain more than one element <reasonForUpdate>, the publisher should only pull the reason for update that the author wants shown. For the publisher to know which `<reasonForUpdate>s` to publish, the author will signify this by using the attribute `'updateHightlight'` on all element `<reasonForUpdate>`s and the attribute `'changeMark'` on elements `<dmRef>` and `<pmRef>` of the primary PM. (See Table B-2.)

To generate the Revision Summary, the publisher first checks the value of the attribute `'changeMark'` on elements `<dmRef>` and `<pmRef>` in the primary PM. A value of `"1"` for the attribute `'changeMark'` and a value of `"1"` for the attribute `'updateHightlight'` on the DM or PM element `<reasonForUpdate>` indicates that the reason for update will be pulled for the Revision Summary/Highlights.

Table B-2 Revision Summary Attributes

Attribute `'changeMark'` of `<dmRef>` or `<pmRef>`	Attribute `'updateHightlight'` of `<reasonForUpdate>`	Display in Revision Summary
0	0	No
0	1	No
1	0	No
1	1	Yes

B.3.3.1. Attribute 'changeMark' of <dmRef> or <pmRef>:

To signify that a reason for update is to be generated in the Revision Summary/Highlights, the author will tag the attribute 'changeMark' on elements <dmRef> and/or <pmRef> of the primary PM with a value of "1". A value of "0" or if the attribute 'changeMark' is not used, means that the element <reasonForUpdate> for the referenced DM or PM, although marked in the DM or PM, is not to be published. Below is an example markup for the attribute 'changeMark' for the reason for update to be included in the Revision Summary:

```
<dmRef changeMark ="1">
      ...
</dmRef>
<pmRef changeMark ="1">
      ...
</pmRef>
```

B.3.3.2. Attribute 'updateHighlight' of <reasonForUpdate>:

The publisher places all element <reasonForUpdate>s in the Revision Summary when the attribute 'updateHightlight' is set to "1". If the attribute 'updateHightlight' is set to "0" or not used, the element <reasonForUpdate>s on a DM or PM will not be placed in the Revision Summary. Below is an example markup for a reason for update to be included in the Revision Summary:

```
<reasonForUpdate updateHighlight="1">
      <simplePara id="i8765">Engineering Change 7854 caused…
      </simplePara
</reasonForUpdate>
```

B.3.4. Table of Contents

The table of contents is automatically generated by the Viewer/Publisher. The author should NOT develop a DM with Information Code 009A.

B.3.5. List of Illustrations

The List of Illustrations is automatically generated during each publishing event and lists figures as sequenced in the publication. If the IETM includes multimedia, the multimedia titles will be included in the List of Illustrations. The author should NOT develop a DM with Information Code 00AA. To appear in the List of Illustrations an image must have a title and an attribute 'id' value.

B.3.6. List of Tables

The List of Tables is automatically generated during each publishing event and lists tables as sequenced in the publication. The author should NOT develop a DM with Information Code 00ZA. To appear in the List of tables a table must have a title.

B.3.7. How to Use This ETM (IETM Only)

The IETM Viewer will provide basic How to Use This ETM information. The Front and Rear Matter Information Set, Chapter 5.N.1.1, Paragraph 3.7, provides further guidance on creating How to Use This ETM containing project specific information. How to Use This ETM is created using a descriptive DM with an ICV 018B.

B.3.8. Foreword

Information on the Foreword is found in the Front and Rear Matter Information Set, Chapter 5.N.1.1, Paragraph 3.8. The Foreword is created using a descriptive DM with an ICV 018N.

B.3.9. Safety Summary

Information on the Safety Summary is found in the Safety Information Set, Chapter 5.N.1.3, Paragraph 3.1. The Safety Summary is created using a descriptive DM with an ICV 012J.

B.3.10. Reference Publications

Information on Reference Publications is found in the Front and Rear Matter Information Set, Chapter 5.N.1.1, Paragraph 3.10. The Reference Publications tabular list is created using a descriptive DM with an ICV 00VA. The author must tag the references using the element <refs>, and then the Viewer/Publisher will automatically generate this table with the correct title and column headings.

B.4. Modules

A technical manual (TM) consists of a primary Publication Module (PM) set up for the TMINs of the TM. Contained within that PM, are other PMs (secondary PMs) and Data Modules (DMs). The PMs and DMs contained within the primary PM will be identified as modules with a number and a title unless they are autogenerated as front matter or rear matter modules.

B.4.1. Publication Modules

The TM is made up of a primary PM to which the TMINs is applied and serves as a container of DMs and other PMs. Secondary PMs can be used to group, or nest, specific types of DMs. The secondary PMs are useful to group text within the TM to create a title in the Table of Contents (TOC) (e.g. Front Matter, General information and safety precautions, and Rear Matter). The secondary PM also facilitates grouping or nesting related modules by function or physical breakdown (e.g. operation, maintenance, and part description). . The PM has an identifier called the Publication module code (PMC). The PMC consists of the model identification code, the issuing authority (e.g. NCAGE), the number of the publication, and the volume number.

B.4.1.1. Publication Module Code

The element <pmCode> contains the publication module code through the use of its attributes.

B.4.1.1.1. Model Identification Code

The attribute 'modelIdentCode' is poplulated with values in a manner consistent with the rules for the attribute 'modelIdentCode' in the data module code.

B.4.1.1.2. Publication Module Issuer

There are two methods of assigning the values of the attribute 'pmIssuer'; one for primary PMs and one for secondary PMs.

a) For the primary PM, NAVSEA changed the implementation of this S1000D requirement for populating the PM Issuer to more align with the TMINS vice the need to know the Issuing Authority because the Issuing Authority in most cases will be NAVSEA and the Issuing Authority can be found in PM and TDMIS metadata. The value of this attribute shall be populated with a value that combines a single digit authority code selected from Table B-3 and a four digit Standard Subject Classification Code (SSCC). For a specific SSCC, see N0000-00-IDX-000/TMINS OPNAV Application Guide and Index for the Navy Standard Technical Manual Identification Numbering System (TMINS). NOTE: Do NOT use the Naval Command Designated Code from N0000-00-IDX-000.

Table B-3 S1000D Issuing Authority Codes

S1000D Issuing Authority Code	Command
B	Naval Operations Command (OPNAV)
C	Space and Warfare Command
D	Air Systems Command
E	Sea Systems Command
F	Marine Corps
G	Bureau of Medicine
H	Training Command
J	Supply Systems Command
K	Bureau of Personnel
M	Facilities Engineering Command

b) For secondary PMs, the value of this attribute shall be populated with the issuing authority's CAGE code.

B.4.1.1.3. Publication Module Number

There are two methods of assigning the values of the attribute `'pmNumber'`; one for primary PMs and one for secondary PMs.

a) For the primary PM, this value of this attribute shall be populated with a value that combines the two-digit Subject Serial (SUB SER) and the three-digit TM acronym code. For the three-digit TM acronym code and the two-digit Subject Serial (SUBJ SER), see N0000-00-IDX-000/TMINS OPNAV Application Guide and Index for the Navy Standard Technical Manual Identification Numbering System (TMINS).

b) For secondary PMs, the value of this attribute shall be a unique sequential alphanumeric number assigned by the program.

B.4.1.1.4. Publication Module Volume

The values of the attribute `'pmVolume'` shall be populated with a two-digit volume number. If no volume identification is needed, the value shall be `"00"`.

B.4.1.1.5. Example Showing Parts of the TMIN in the PMC of a Primary PM:

In the description below, NAVSEA TMIN of S6226-K9-MMA-010 will be converted to S1000D PMC CWPump-E6226-MMAK9-01. The existing TMIN is a Maintenance Manual for a Chilled Water Pump.

The PMC consists of the:

- Model identification code identifies the Product to which the data applies and is the point of reference for all applicability information. Example: `modelIdentCode="CWPUMP"`.
- PM Issuer is populated from the TMINS with the S1000D modified Cognizant Command Code which for NAVSEA will be "E" and the four-digit Standard Subject Classification code (SSCC) is "6226". Example: `pmIssuer ="E6226".`
- Publication number is populated with a value that combines the three digit TM acronym code and the two digits Subject Serial (SUBJ SER). Example: `pmNumber ="MMAK9".`

- Volume is populated with a two digit volume number. If no volume identification is needed, the default value shall be "00". Example: pmVolume ="01".

B.4.2. Data Modules

An S1000D DM is "A self-contained unit of data for the description, operation, identification of parts or maintenance of the Product and its support equipment. The unit of data consists of an identification and status section and contents section and is produced in such a form that it can be input into and retrieved from, a database using the data module code as the identifier."[1] The identification and status section contains metadata about the DM including the DM address, the security classification of the DM, applicability, and the quality assurance status. The content section contains the information that a user will see, i.e. descriptive data, procedures, an IPD, etc. The DM address in the metadata consists of the Data Module Code (DMC) and the issue details. For identification and status elements not addressed below, see S1000D, Issue 4.0.1, Chapter 3.9.5.1.

[1] S1000D, Issue 4.0.1, Chapter 9.2, Paragraph 1.1

B.4.2.1. Data Module Code

The element <dmCode>, through the use of its attributes, contains the data module code which is the unique identifier of a data module. A data module must be given a data module code. The DMC provides four pieces of identifying information as follows:

a. Identification of the Product or part of the Product about which the DM has been written, via the model identifier, the system difference code, the S1000D Standard Numbering System (SNS), the disassembly code, and the disassembly variant.

b. Identification of the information type via the information code.

c. Identification of the location at which the information in the DM is appropriate via the item location code.

d. Identification of the type of learning content in learning data modules. This Guide will not address learning content.

The paragraphs below describe the attributes used to produce the sample DMC S1000DBIKE-AAA-HA2-20-0000-00AAA-251A-A.

B.4.2.1.1. Model Identification Code

The mandatory attribute 'modelIdentCode' provides the model identifier (MI) or project name. This is a 2 to 14 character alphanumeric code. Projects must apply directly to NAMSA (www.namsa.nato.int) to obtain the MI. Once obtained this MI must be provided to the NAVSEA S1000D Configuration Control Board. Example: modelIdentCode="S1000DBIKE"

B.4.2.1.2. System Difference Code

The mandatory attribute 'systemDiffCode' is a 2 to 4 character alphanumeric code. It is used to identify alternate versions of the system. The project must define the system difference code values. Example: systemDiffCode="AAA".

B.4.2.1.3. Standard Numbering System

The maintained SNS, as detailed in S1000D, Issue 4.0.1, Chapter 8.2.8 is the preferred SNS to use. If a maintained SNS is not used, the next preference is for an ESWBS-based SNS. Lastly, a project-

developed, custom SNS that has been approved by NAVSEA may be used. The SNS contains the following attributes as detailed in Paragraphs B.4.2.1.3.1. through B.4.2.1.3.3.

B.4.2.1.3.1. System Code and Materiel Item Category Code

The mandatory attribute 'systemCode' is a three character alphanumeric code that identifies the system. The first alphanumeric character is the materiel item category code (MICC) as required by the NAVSEA S1000D business rules. Defined MICCs are found at S1000D, Issue 4.0.1, Chapter 4.3.3, Paragraph 2.2.2. MICCs for ESWBS-based and custom SNSs must be coordinated with NAVSEA S1000D Configuration Control Board. Example: systemCode="HA2".

B.4.2.1.3.2. Sub System Code

The mandatory attribute 'subSystemCode' is described in S1000D, Issue 4.0.1, Chapter 4.3.3, Paragraph 2.2.3. Example: subSystemCode="2".

B.4.2.1.3.3. Sub Sub System Code

The mandatory attribute 'subSubSystemCode' is detailed in S1000D, Issue 4.0.1, Chapter 4.3.3, Paragraph 2.2.3. The definitions for sub-subsystems are allocated by the project and/or manufacturer, depending on the complexity and are to be provided in the project or organization business rules. Example: subSubSystemCode="0".

B.4.2.1.4. Assembly Code

The mandatory attribute 'assyCode' is described in S1000D, Issue 4.0.1, Chapter 4.3.3, Paragraph 2.2.4. Example: assyCode="0000".

B.4.2.1.5. Disassembly Code

The mandatory attribute 'disassyCode' is normally used as described in S1000D, Issue 4.0.1, Chapter 4.3.4. Example: disassyCode="00".

The Joint Service IT Working Group has approved an alternate use of the disassembly code. When multiple data modules are required to address a single content need (i.e., when the content is voluminous), the disassembly code may be used to establish data module code uniqueness. This use of the disassembly code is intended to be used to divide an otherwise too long data module (that covers a single topic) into multiple data modules. The use of this method shall be compliant with the following rules:

a. This method shall only be used when all other components of the DMC (model identification, SDC, SNS, & IC) are the same.
b. The disassembly codes shall be a sequential number starting from "01" for each otherwise identical DMC.
c. This method shall only be used with descriptive data modules.
d. The data modules shall be segmented at logical content sections (e.g., sub-topics). Artificial breaks (e.g., after every 10 pages) shall not be used.
e. This method shall not be used when multiple topics are involved that have applicable topic-specific information codes. Information codes shall be the preferred method for identifying the topic of a data module.
f. This method shall not be used when the content is less than the equivalent of 30 printed pages.

g. This does not prohibit the use of disassembly code for other purposes in other data modules as defined by S1000D and these business rules.

h. For each DM where this method for coding the DC is used, the project shall assign an information name that corresponds to the specific content contained therein and extends the information name normally associated with the ICV. The information name, in these cases, shall be a sub topic of the information name (e.g., “Normal operation, Landing clearance”).

B.4.2.1.6. Disassembly Code Variant

The mandatory attribute `'disassyCodeVariant'` is described in S1000D, Issue 4.0.1, Chapter 4.3.5. Example: `disassyCodeVariant="AAA"`.

B.4.2.1.7. Information Code

The mandatory attribute `'infoCode'` is described in S1000D, Issue 4.0.1, Chapter 4.3.6. Information Codes (ICs) must come from the list of approved Joint Service IC/IC variants which can be requested from http://www.navsea.navy.mil/nswc/carderock/tecinfsys/s1000d/tools_repos.html. Example: `infoCode="251".`

B.4.2.1.8. Information Code Variant

The mandatory attribute `'infoCodeVariant'` is a single alphanumeric character that further refines the IC. IC variants must come from the list of approved Joint Service IC/IC variants which can be requested from http://www.navsea.navy.mil/nswc/carderock/tecinfsys/s1000d/tools_repos.html. Example: `infoCodeVariant="A"`.

B.4.2.1.9. Item Location Code

The mandatory attribute `'itemLocationCode'` is described in S1000D, Issue 4.0.1, Chapter 4.3.8. Example: `itemLocationCode="A"`.

B.4.2.2. <techStandard>

If the `<techStandard>` element is used, and there are no notes, projects shall populate the element `<authorityNotes>` in the `<techStandard>` element with the following text, “None.”

B.4.3. Information Sets

In S1000D, information sets cover the depth and breadth of the content requirements for the TM. NAVSEA has developed information sets that encompass the technical content of the types of TMs that are covered in MIL-DTL-24784C. For each content requirement, recommended information codes and information code variants are provided in the information sets. The use of the NAVSEA information sets is required for NAVSEA programs to ensure that the technical content in the TM conforms to MIL-DTL-24784C. The NAVSEA information sets may be requested via http://www.navsea.navy.mil/nswc/carderock/tecinfsys/s1000d/tools_repos.html.

B.5. Graphics

General NAVSEA specific graphics information is covered in the Graphics Information Set, Chapter 5.N.1.2. For approved graphic formats for NAVSEA TMs, see the TMCR/TMSR. General graphics tagging information is covered in S1000D, Issue 4.0.1, Chapter 3.9.5.2.1.7. This section covers specific NAVSEA graphics requirements and tagging.

B.5.1. Information Control Number

Each graphic object must be identified by an ICN. The ICN shall be placed outside the graphic so it is not viewable when published. The information control numbers are normally derived from the XML attribute infoEntityIdent and put in place by the publishing system. An ICN shall only be presented once with each illustration. NAVSEA TMs use the Model identification code based ICN which has a maximum of 47 characters. Only items needing further clarification are detailed in paragraphs below. The ICN consists of the following items:

- Prefix – always "ICN"
- Model identification code – See B.4.2.1.1.
- System difference code – See B.4.2.1.2.
- Standard numbering system code – See B.4.2.1.3.
- Responsible partner company code
- Originator code (CAGE code)
- Unique identifier – See S1000D, Issue 4.0.1, Chapter 4.4, Paragraph 2.2.6
- Variant code – See S1000D, Issue 4.0.1, Chapter 4.4, Paragraph 2.2.7
- Issue number– See S1000D, Issue 4.0.1, Chapter 4.4, Paragraph 2.1.3
- Security classification

B.5.1.1. Responsible Partner Company Code

This one character code is defined by the project to identify the company or organization responsible for the graphic item. If this code is not being used, it shall be set to "N".

B.5.1.2. Originator Code (CAGE Code)

The CAGE code is a 5 character code and is found in the listing at http://www.dlis.dla.mil/cage_welcome.asp. All Navy Shore Facilities have a CAGE code assigned. The CAGE code is NOT the same as the Navy Unit Identification Code (UIC). Do NOT use the UIC as the Cage code when the originator is a Navy activity as this will result in the incorrect identification of the activity.

B.5.1.3. Security Classification

This two character item identifies the security classification of the graphic item using the values found in Paragraph B.7.1.

B.5.2. Oversize Figures

Oversized figures within PDF TMs must be tagged using the optional container element <foldout>. The element <foldout> is generally only used for PDF TMs; however, if the TM is going to be published both as an IETM and a PDF TM, <foldout> must be used. The maximum page size of a foldout is 26 by 11 inches with a printable area of 24-3/4 by 10 inches.

B.5.3. Figure Labeling

The element <title> within the element <figure> provides the figure title. The Viewer/Publisher will automatically generate the word "Figure" and the figure number, so authors should NOT include them in the figure title. Figure titles are to be authored in title case and are NOT to have a period at the end of the title.

B.5.3.1. Multi-sheet Figure Labeling

An element <figure> containing multiple element <graphic>s is a multi-sheet figure. The numbering for the multi-sheet figure is auto-generated by the Viewer/Publisher. Multisheet figures are

consecutively numbered with the total number of sheets following the title; for example, “Figure 1. Circuit Card (Sheet 1 of 3)”. The remaining sheets are numbered in consecutive order, “Figure 1. Circuit Card (Sheet 2 of 3)”, “Figure 1. Circuit Card (Sheet 3 of 3)”.

B.6. Rear Matter

This section details the rear matter items of an S1000D technical manual that is compliant with NAVSEA requirements found in MIL-DTL-24784C. IETMs will not have a section in the TOC identified as Rear Matter, but the rear matter items are part of the IETM. NAVSEA mandatory items are denoted with an (M); NAVSEA optional items are denoted with an (O). Rear matter consists of the following items:

- List of Acronyms and Abbreviations (O, Conditional)
- Numerical Index of Part Numbers (O)
- Reference Designation Index (O)
- Technical Manual Deficiency/Evaluation Report (TMDER) (M)
- Back Cover (PDF only) (M)

For PDF TMs, the last two DMs in the primary PM shall be the Numerical Index of Part Numbers and the Reference Designation Index.

B.6.1. List of Acronyms and Abbreviations

The List of Acronyms and Abbreviations is designated by NAVSEA as a Standardized Information Table (SIT), and the Viewer/Publisher will automatically generate and format into a list. All acronyms or abbreviations and their definitions must be tagged using the elements `<acronym>` and `<acronymTerm>`. This item is mandatory if the TM contains acronyms or abbreviations.

B.6.2. Numerical Index of Part Numbers

Information on the Numerical Index of Part Numbers is found in the Illustrated Parts Data (IPD) Information Set, Chapter 5.N.1.4, Paragraph 3.5. Use information code variant 942A to indicate the data module contains the Numerical Index of Part Numbers. This index is designated by NAVSEA as a Standardized Information Table (SIT). See Paragraph B.7.7.1.13.

B.6.3. Reference Designation Index

Information on the Reference Designation Index is found in the Illustrated Parts Data (IPD) Information Set, Chapter 5.N.1.4, Paragraph 3.6. Use info code 942B to indicate the data module contains the Reference Designation Index. This index is designated by NAVSEA as a SIT. See Paragraph B.7.7.1.14.

B.6.4. Technical Manual Deficiency/Evaluation Report (TMDER)

For PDF TMs, the Publisher will automatically generate and place TMDER sheets before the back cover. For IETMs, the TMDER is accessed from the Feedback item on the Main Menu Bar. The TMDER tool URL will be provided as GFE to IETM Acquiring Activities/IETM developers. The Viewer will automatically generate an interactive TMDER for use when internet access is unavailable.

B.6.5. Back Cover (PDF only)

The publisher automatically places a back cover at the end of a PDF publication.

B.7. Content Elements and Attributes

This section will cover content elements and attributes which must be authored in very specific ways to meet NAVSEA requirements. These requirements support the NAVSEA TMCRs for proper publishing of NAVSEA TMs. For information on other elements, see the S1000D specification and the S1000D Schema Documentation.

B.7.1. Security Elements and Attributes

The element <security>, through its attribute 'securityClassification' provides the security classification for PMs and DMs. The attribute 'caveat' is used to provide overall handling instructions for the primary PM and individual handling instructions for each PM and DM should they be separated from the primary PM. The security classification for individual elements is important because of portion marking requirements. The attribute 'securityClassification' is mandatory for PMs and DMs and when used within the primary PM, provides the security classification for the entire PM. The following values are used to indicate the security classification:

- "01" unclassified
- "03" confidential
- "04" secret
- "05" top secret

The Viewer/Publisher will automatically generate the appropriate security markings based on the attribute value. The attribute 'commercialClassification' shall not be used. The optional attribute 'caveat' is used to indicate the handling instructions for the TM as follows:

- "cv51" For Official Use Only
- "cv57" Restricted Data
- "cv58" Formerly Restricted Data
- "cv59" NOFORN

If this attribute is populated, the Publisher/Viewer will automatically generate the appropriate handling instructions based on the attribute value.

B.7.2. Portion Marking Attributes

DON regulations require that data be portion marked so the optional attribute 'securityClassification' on an element must be populated. The following values for the attribute 'securityClassification' are used to indicate the security classification of a piece of data:

- "01" unclassified
- "03" confidential
- "04" secret
- "05" top secret

The Viewer/Publisher will automatically generate the appropriate markings based on the attribute value. The optional attribute 'commercialClassification' shall NOT be used.

B.7.3. Titled Paragraphs

Title paragraphs use the element <levelledParagraph>. NAVSEA also requires that all leveled paragraphs must have a title. If no title is present, the BREX issues an error. The Publisher automatically generates labels for titled paragraphs in page-based (PDF) TMs, and the Viewer/Publisher automatically controls paragraph text placement for frame-based and page-based TMs. The Viewer/Publisher will bold or italicize the title text as required; however, the title text must be authored in the correct case in accordance with NAVSEA requirements. The primary paragraph title and the subparagraph level one titles must be authored in all capital letters. Subparagraph levels two through four titles must be authored in title case. Title case means using capital letters for the first letter of the principal words in

the title. Although the S1000D schema allows infinite levels of nesting, NAVSEA only permits five levels. When more than five levels are declared, the BREX issues an error.

B.7.4. Step Elements

There are four types of step elements used in S1000D:

- <proceduralStep> within <procedure> in the proced schema
- <isolationStep> within <isolationProcedure> in the fault schema
- <crewDrillStep> within <crewDrill> in the crew schema
- <checkListStep> within <checkListProcedure> in the checklist schema

The step elements are used to present data in an ordered sequence. The Viewer/Publisher will automatically generate labels for steps and will control any applicable formatting. Although infinite levels of nesting are allowed by S1000D, NAVSEA only permits four levels. When more than four levels are declared, the BREX issues an error. Do not tag the element <title> within a step. If a step has the element <title>, the BREX issues an error.

B.7.5. <preliminaryRqmts> and <closeRqmts>

The <preliminaryRqmts> and <closeRqmts> elements are required for all procedural and fault isolation data modules. The elements provide the actions to be done or conditions that must be satisfied before and after a procedure is performed. The <closeRqmts> element captures any actions that are required after the procedure is complete to return the equipment or system to a serviceable condition. The <preliminaryRqmts> and <closeRqmts> elements both include the child element <reqCondGroup>. The <preliminaryRqmts> element also includes child elements: <reqPersons>, <reqTechInfoGroup>, <reqSupportEquips>, <reqSupplies>, <reqSpares>, and <reqSafety>.

B.7.5.1. <reqCondGroup> (M)

The Viewer will present the contents of the element <reqCondGroup> and its child elements in a list. When the child element <noConds> is specified, the text “No required conditions” will be generated. The Publisher will format the contents as a three column table and automatically generate the table title and column headings. When the child element <noConds> is specified, the publisher will generate a single row containing the text “No required conditions“ that spans all columns.

B.7.5.2. <reqPersons> (O)

The Viewer/Publisher will place the contents of the element <reqPersons> and its child elements at the beginning of the procedure with a title of “Required personnel”. If this element is not tagged, the Viewer/Publisher will not display the title.

B.7.5.3. <reqTechInfoGroup> (O)

The Viewer will place the contents of the element <reqTechInfoGroup> and its child elements under the Ref. Material tab. The Publisher will format the contents as a two column table and automatically generate the table title and column headings.

B.7.5.4. <reqSupportEquips> (M)

The Viewer will place the contents of the element <reqSupportEquips> and its child elements under the Support Equip. tab. When the child element <noSupportEquips> is specified, the Viewer will place the text “No required support equipment” under the Support Equip. Tab. The Publisher will format the contents as a four column table and automatically generate the table title

and column headings. When the child element <noSupportEquips> is specified, the publisher generates a single row containing the text “No required support equipment” that spans all columns.

B.7.5.5. <reqSupplies> (M)

The Viewer will place the contents of the element <reqSupplies> and its child elements under the Material Req. tab. When the child element <noSupplies> is specified, the Viewer will place the text “No required supplies” under the Material Req. Tab. The Publisher will format the contents as a four column table and automatically generate the table title and column headings. When the child element <noSupplies> is specified, the publisher generates a single row containing the text “No required supplies” that spans all columns.

B.7.5.6. <reqSpares> (M)

The Viewer will place the contents of the element <reqSpares> and its child elements under the Material Req. tab. When the child element <noSpares> is specified, the Viewer will place the text “No required spares” under the Material Req. Tab. The Publisher will format the contents as a four column table and automatically generate the table title and column headings. When the child element <noSpares> is specified, the publisher generates a single row containing the text “No required spares” that spans all columns.

B.7.5.7. <reqSafety> (M)

The Viewer will place the contents of the element <reqSafety> and its child elements at the beginning of the procedure with a title of “Safety conditions”. When the element <noSafety>, a child element of <reqSafety> is specified, the Viewer/Publisher will generate the text “No required safety conditions”.

B.7.6. Illustrated Parts Data

The Illustrated Parts Data (IPD) contains the IPD illustrations and Group Assembly Parts List (GAPL). Authors shall use the IPD schema with an information code of 941 for tagging the IPD. The publisher will generate, in tabular format, the lists and indices. For content requirements, authors shall use information set Chapter 5.N.1.4 NAVSEA specific information sets – Illustrated Parts Data (IPD).

B.7.6.1. IPD Illustrations

The illustrations are tagged like other graphics using the elements <figure> and <graphic>.

B.7.6.2. Group Assembly Parts List (GAPL)

The GAPL is a tabular listing of the all authorized repair parts for use in the performance of maintenance. For an example of a GAPL, see Figure B-3. The paragraphs below provide the table title heading, the elements and attributes required for content under the title heading and any NAVSEA requirements. The GAPL is autogenerated by the publisher and is based on authoring the IPD schema using the element <illustratedPartsCatalog>. The key child elements are <figure>, <initialProvisioningProject> and <catalogSeqNumber>.

Table 1 GAPL for Figure 1 IPB Figure

Figure and Index No.	Ref. Desig.	Part No.	Part Name and Description 1 2 3 4 5 6 7	Qty. Per Assy.	CAGE Code	Used On Code	SM&R Code
Fig 1							
-REF	1A1	3052251G1	END ITEM	REF			
-1		3052359G1	. Detailed part for End Item	1			PFOGEN
-2		3052398G1	. ASSEMBLY	1			
-3		3017972G1	. Attaching Part for Assembly	1			
-4		MS51957-28	. . Detailed part A for Assembly	18			
		MS15795-805	. . Detailed part B for Assembly	18			
-5		3052395G1	. . SUBASSEMBLY	1			
-6		MS51957-28	. . Attaching part A for Subassembly	6			
		MS15795-805	. . Attaching part B for Subassembly	6			
-7		82-35-302-15	. . Attaching part C for Subassembly and this Attaching Part	2	94222		
-8		MS20426AD3-5	. . . Detailed part for Subassembly	2			
-9		3065314P3	. . . SUB-SUBASSEMBLY	1			
-10		3052395P1	. . . Attaching part for Sub-Subassembly	1			
-11	1A1A1	3052323G2	. . . . Detailed Part A for Sub-Subassembly	1		A	
	1A1A1	3052323G1	. . . . Detailed Part B for Sub-Subassembly	1		B	
-12	1A1A2	3052333G1	. . . . SUB-SUB-SUBASSEMBLY	1			
-13	1A1A3	3052255G1	. . . . Attaching part A for Sub-Sub-Subassembly	1			
-14	1A1A4	3052328G1	. . . . Attaching part B for Sub-Sub-Subassembly	1			

Figure B-3 GAPL Table Example

B.7.6.2.1. Figure and Index No.

The figure number and index number are identified through the last 7 characters of the attribute 'catalogSeqNumberValue' of the element <catalogSeqNumber> and the attribute 'catalogItemNumber' of the element <catalogSeqNumber>. Both attributes shall be tagged for IPDs.

For an IPD with catalogSeqNumberValue="G3204601 012", the figure number is "1" and the Index number is "12". Note that the blank space in the value is a placeholder for the figure number variant and is required to maintain the character count. See Table B-4 for the coding format of the attribute 'catalogSeqNumberValue'.

Table B-4 Catalogue Sequence Number

Position	Content	Comment
1 and 2	Chapter (from the SNS)	
3	Sub-chapter (from the SNS)	
4	Sub-subchapter (from the SNS)	
5 and 6	Unit or assembly (from the SNS)	
7 and 8	Figure number	
9	Figure number variant	Leave a blank space (" ") if no variant.
10, 11 and 12	Item number	
13	Item number variant	No "blank" space is needed if no variant.

The first three of the last six characters make-up the figure number and figure number variant and the last four are the index number and index number variant. If there is no variant then a blank space is used as a placeholder.

The index number is also provided through the attribute 'catalogItemNumber' of the element <catalogSeqNumber>. The attribute 'catalogItemNumber' is always used to contain the four characters made from the item number and the item number variant. If item number variant is not given, it must be filled with a single space character.

B.7.6.2.2. Reference Designator

The element <referenceDesignator> under the element <itemSequenceNumber> contains a cross reference to parts in wiring diagrams, hydraulic diagrams, etc. It is populated with letters, numbers or symbols as appropriate to the target diagram.

B.7.6.2.3. Part Number

The element <partNumber> under the element <itemSequenceNumber> is used to store the part number of an item.

B.7.6.2.4. Part Name and Description

Besides the part name, the Part Name and Description column must contain the mandatory description for the part together with the optional description for location (DFL). Additionally, supplementary information which relates to the part and its location should also appear. The hierarchy of the parts is

shown through indentation. The number of indentations is given by the attribute indenture for the element <catalogSeqNumber>. The description should include some the following elements.

B.7.6.2.4.1. Description for Part

The element <descrForPart> under the element <itemSequenceNumber> is used to hold a detailed description for a part.

B.7.6.2.4.2. Item Description

The element <descrForItem> under the element <itemSequenceNumber> is used to hold a detailed description of the item. The attribute 'descrForItemCode' identifies the type of part and while not currently supported by the Viewer/Publisher, should be populated using data from Table B-5.

Table B-5 Attribute 'descrForItemCode' values

Value	Description of Value
"part"	Identifies the part as a standard part
"exp"	Identifies the part as an expendable part
"coei"	Identifies the part as a components of end item part
"bii"	Identifies the part as a basic issue item part
"aal"	Identifies the part as an item required to operate equipment
"tool"	Identifies the part as a tool item
"special tool"	Identifies the part as a special tool

B.7.6.2.4.3. Description for Location

The element <descrForLocation> under the element <partLocationSegment> is used to store a description for the location of the item.

B.7.6.2.4.4. Special Storage

The element <specialStorage> under the element <itemSequenceNumber> is used to record whether an item requires special storage. A value of "0" indicates that the item does not require special storage. A value of "1" indicates that the item has special storage requirements. If the value of <specialStorage> is set to "1" then the element <reasonForSelection> must not be set to "0".

B.7.6.2.4.5. Calibration

The element <calibrationMarker> under the element <itemSequenceNumber> is used to identify items that require calibration. This element should be set to "1" if an item requires calibration.

B.7.6.2.4.6. NATO Stock Number

The element <natoStockNumber> under the element <itemSequenceNumber> is used to contain the NSN for the CSN. Use of the child element <fullNatoStockNumber> is prohibited. The NSN attributes shall be used. The attribute 'natoSupplyClass' shall contain the four digit Federal Supply Classification (FSC). The attribute 'natoCodificationBureau' shall contain the first two digits of the NIIN. The attribute 'natoItemIdentNumberCore' shall contain the final seven digits of the NIIN.

B.7.6.2.4.7. Equivalent Parts

The element <interchangeability> is used to record equivalent parts that are interchangeable with two or more items at the same location. This element will only be populated if the element <reasonForSelection> is not set to "0". All equivalent part numbers shall be listed with an asterisk (*) in the USED ON CODE column. When a part is interchangeable only on certain end items, the USED ON CODE column shall carry the end item identification in addition to the required asterisk (*).

B.7.6.2.5. Quantity per Assembly

The element <quantityPerNextHigherAssy> under the element <itemSequenceNumber> is used to store the Quantity per Next higher Assembly (QNA) of an item.

B.7.6.2.6. Cage Code

The element <manufacturerCode> under the element <itemSequenceNumber> is used to contain the NATO supply code for manufacturers (CAGE).

B.7.6.2.7. Used on Code

Contents of this column come from the elements <usableOnCodeEquip> or <usableOnCodeAssy> under the element <applicabilitySegment>. The element <usableOnCodeEquip> is used to record the equipment variants and configurations to which the item is applied. The element <usableOnCodeAssy> is used to record the assembly variants and configurations variants to which the item is applied.

B.7.6.2.8. Source Maintenance and Recoverability (SM&R) Code

The element <sourceMaintRecoverability> under the element <locationRcmd> is used to identify maintenance activities which are performed on an item. The population of this element is in accordance with Table B-6.

Table B-6 SM&R Code

Position	Content
1 and 2	Source code indicating the means of acquiring the item
3	Maintenance code indicating the lowest maintenance level allowed to remove, replace or use the item
4	Maintenance code indicating the lowest maintenance level allowed to repair the item
5	Recoverability code indicating disposal action to be taken for unserviceable items
6	Defined by project

As part of the element <locationRcmd>, mandatory element <service> must be tagged and is used to identify the user service to which specific data is applicable. The first two characters for the <service> code shall be "US" (for NATO projects the 2 digit code shall be "NA"). The third character shall specify the originating service for which the part data is applicable as follows: "A" for Army, "N" for Navy, "F" for Air Force, and "M" for Marine Corps.

B.7.6.2.9. Generic Parts Data Group

The element <genericPartDataGroup> shall not be used. The current IPD element structure strongly relies on the S2000M data organization, and the elements meet NAVSEA's requirements. The element <genericPartDataGroup> is used when specific data cannot be covered by the existing S2000M elements. If a program after analyzing source data and the S2000M elements already addressed cannot find an element to tag the source data, the program must notify NSWC Carderock for assistance and resolution.

B.7.6.3. Commonly Used Mark-up

```
<catalogSeqNumber id="x123456" catalogSeqNumberValue="001"
catalogItemNumber="001" indenture="2">
   <itemSequenceNumber itemSeqNumberValue="001">
       <quantityPerNextHigherAssy></quantityPerNextHigherAssy>
       <manufacturerCode></manufacturerCode>
       <partNumber></partNumber>
       <partIdentSegment>
          <descrForPart></descrForPart>
       </partIdentSegment>
       <natoStockNumber natoSupplyClass="d"
       natoCodificationBureau="dd" natoItemIdentCodeCore="ddddddd ">
       </natoStockNumber>
       <partLocationSegment>
          <descrForLocation></descrForLocation>
       </partLocationSegment>
       <locationRcmdSegment>
          <locationRcmd>
              <service></service>
              <sourceMaintRecoverability></sourceMaintRecoverability
              >
          </locationRcmd>
       </locationRcmdSegment>
       <referenceDesignator></referenceDesignator>
   </itemSequenceNumber>
</catalogSeqNumber>
```

B.7.7. Tables

Tables include NAVSEA designated Standardized Information Tables (SITs) and CALS tables.

B.7.7.1. Standardized Information Tables

NAVSEA has designated specific tables, lists, and indices to be SITs. Unless otherwise indicated, these tables are tagged using the CALS table tagging elements and attributes, but these items have specific table titles and column headings that must be used. The tables marked with an asterisk are automatically generated by the Viewer/Publisher. All other SITs must be tagged as S1000D CALS tables. These tables must be authored with the titles and column headings indicated in the following paragraphs. The following is a list of the NAVSEA SITs:

- Controls and Indicators Table
- Displays/Alerts Table
- Equipment Modification Table
- Fault Descriptions Table
- Field and Factory Changes List
- Major Equipment Table
- Protective Devices Index
- References List* (See B.3.10.)
- Test Fault Impacts Table
- Electrical Troubleshooting Index
- Abbreviations List* (PDF only) (See B.6.1.)
- Troubleshooting Procedure-B
- Useable On Codes List
- Group Assembly Parts List (GAPL) *
- Numerical Index of Parts (Also see B.6.2.)
- Reference Designation Index (Also see B.6.3.)

B.7.7.1.1. Controls and Indicators Table

The Controls and Indicators Table provides the names of panel designations as marked on the equipment, the positions and operating functions for each control, and the normal operating condition of each indicator in each of the operating functions.

Table 1 Controls and Indicators

Index No.	Control/Indicator	Function
45A	Condenser Drain Gate Valve	When open, drains "shell side" of condenser into sump can drain.
45B	Pump Drain Gate Valve	When open, drains recirculating pump into sump can drain.

Figure B-4 Controls and Indicators Table Example

B.7.7.1.2. Displays/Alerts Table

The purpose of the Displays/Alerts Table is to provide the required data for each display and alert. The table will indicate the index number (when used) referenced from the illustration, the associated display or alert and its nomenclature, including the reference designator, if applicable, and the function of the display or alert.

Table 1 Displays/Alerts

Index No.	Display/Alert	Function
45A	Primary Widget Monitor	Monitors Widget Input
45B	Secondary Widget Monitor	Monitors Widget Output
Notes: - Return depleted widgets to Depot for recycling.		

Figure B-5 Displays/Alerts Table Example

B.7.7.1.3. Equipment Modification Table

The Equipment Modification Table contains all equipment modification change data.

Table 1 Equipment Modification

Change No.	Nomenclature	Description
45A	Primary Widget Monitor	Do ASAP.
45B	Secondary Widget Monitor	Do next cycle.
Notes: - Check date to make sure modification is the latest. - Check to see if cycle modification is required.		

Figure B-6 Equipment Modification Table

B.7.7.1.4. Fault Descriptions Table

The Fault Descriptions Table lists all fault descriptions along with the corresponding maintenance action to be taken.

Table 1 Fault Descriptions

Fault Description	Maintenance Action
Steam Leakage	Locate Steam Leak - NIST 123
	Plug Steam Leak - NIST 567
	Seal Steam Leak Plug – NIST 587
	Consult NIST Steam Pubs.
System: Plumbing	
Water Leak	Locate Water Leak – NIST 520
	Plug Water Leak – NIST 721
	Seal Water Leak Plug – NIST 889
	Consult NIST Plumbing Pubs.
SubSystem: Drainage	
Drainage Leak	Locate Drainage Leak – NIST 491
	Plug Drainage Leak – NIST 649
	Seal Plug Drainage Leak – NIST 851
	Consult NIST Drainage Pubs.
Notes: - All relevant NIST pubs are on-line.	

Figure B-7 Fault Descriptor Table Example

B.7.7.1.5. Field and Factory Changes List

The Field and Factory Changes List identifies field changes, factory changes, engineering changes or notices, modifications, and so forth.

Table 1 Field and Factory Changes

Change No.	Nomenclature	Description
45A	Primary Widget Monitor[1]	Adjust static filter to new tolerance.
45B	Secondary Widget Monitor	Change tuning dial to LCD.[2]
Notes: - Return depleted widgets to Depot for recycling.		

[1] Use appropriate static filter.
[2] Do not use Plasma option.

Figure B-8 Field and Factory Changes List Example

B.7.7.1.6. Major Equipment Table

A separate Major Equipment Table shall be provided for each combat system element. The tables shall include common name or abbreviation, nomenclature, quantity, and location.

Table 1 Major Equipment

Common Name	System Nomenclature	Qty.	Location
Shipboard Monitoring			
Widget1 Monitor	Electronic Device	1	Bulkhead 1
Widget1 Sensor	Electronic Device	5	Bulkhead 1
Widget2 Monitor	Electronic Device	3	Bulkhead 3

Figure B-9 Major Equipment Table Example

B.7.7.1.7. Protective Devices Index

The Protective Devices Index lists all protective devices, such as fuses, circuit breakers, and so forth. It includes the item reference designation, front panel marking of the device, trip-out value of the circuit breaker and rating of fuses, name of the circuit protected and a reference to troubleshooting diagram(s).

Table 1 Protective Devices Index

Ref. Desig.	Front Panel Marking	Voltage Rating	Amp Rating	Circuit Protected	Reference
123-3456	APQ-37	123V	789A	Zinc jacket	NIST 235-567
456-2348	AEVI-8	456V	321A	Tin top	NIST 434-567/8
Notes: - See other relevant NIST publications for more details.					

Figure B-10 Protective Devices Index Example

B.7.7.1.8. Test Fault Impacts Table

The Test Fault Impacts Table is provided for each major combat system function. This table contains tests with fault isolation pictorial and fault impact evaluation references for each combat mission (AAW, ASW, SUW, and shore bombardment).

Table 1 Test Fault Impacts

Ref.	Test	Test Brief	Fault Isolation Pictorial	Impact Evaluation Ref.
45A	Voltage	Volt Meter	Sec. 2, # 3	Sec.5, para. 5
46B	Amperage	Ammeter	Sec. 3, #16	Sec.5, para. 6
Notes: - Do not conduct this test if a thunderstorm is nearby.				

Figure B-11 Test Faults Impact Table Example

B.7.7.1.9. Electrical Troubleshooting Index

The Electrical Troubleshooting Index is prepared for all relay coils, switches, and indicator lamps. It shall include the item reference designation, the functional name, energizing voltage, and a reference to the troubleshooting diagram(s).

Table 1 Electrical Troubleshooting Index

Ref. Des.	Functional Name	Voltage	Reference
A14AL1	Power Line Filter	120 VAC	NIST43-23 Sec. 3, para. 12
A39	Thermal Switch Assembly	12 VDC	NIST42-56 Sec. 4, para. 3
Notes: - NIST references are available on line.			

Figure B-12 Electrical Troubleshooting Index Example

B.7.7.1.10. Troubleshooting Procedure-B

Troubleshooting Procedure-B lists procedures for detecting, isolating, and correcting systems, subsystems, and equipment failures and malfunctions.

Table 1. Troubleshooting Procedure

Symptom	Probable Cause/ Malfunction	Corrective Action
High steam pressure light is on and steam pressure has high reading above 110 psig.	Steam dump valve malfunction.	Check operation of steam dump valve. Manually open valve if it is stuck closed. To open manually, turn hand wheel to full counterclockwise (open) position.
	Malfunctioning of the pilot control pneumatic valve due to due to plugged steam pressure line or cracked pneumatic line.	Blow down pneumatic lines to controller.
		Check air supply to pilot controller.
Low feedwater level light on.	Low water level in feedwater tank.	Check feedwater tank. Add water as required.
High feedwater level light on.	High water level in feedwater tank.	Check feedwater tank. Do not overfill.
Salinity light on.	Salinity above .05 epm in the condensate discharge from the boiler condenser or the condensate cooler due to water leak.	• Locate and fix leak. • Flush system to clean salinity cells. • Return system to normal operation.

Figure B-13 Troubleshooting Procedure-B Example

B.7.7.1.11. Useable On Codes List

The Useable On Codes List provides a list of the useable on codes and their meanings.

Table 1 Useable On Codes for Figure 1 IPB Figure

Useable on Code	Definition
58934	EL-587
68579	EL-588 This is a remark.

Figure B-14 Useable On Codes List Example

B.7.7.1.12. Group Assembly Parts List

See Paragraph B.7.6.2.

B.7.7.1.13. Numerical Index of Parts

The Numerical Index of Parts is an index of part numbers.

Table 1 Numerical Index of Parts

Part No.	Figure/Index No.
123456789012345	1/-
A1234567 23456	1/1
	2/1
AB1234567 23456	1/-
AC1234567 23456	2/-
C1234567 23456	1/-
D1234567 23456	1/-
E1234567 23456	1/2
F1234567 23456	1/3

Figure B-15 Numerical Index of Parts

B.7.7.1.14. Reference Designation Index

The Reference Designation Index provides access to the specific manual, figure, and index number related to a specific reference designation.

Table 1 Reference Designation Index

Ref. Desig.	Figure/Index No.	Part No.
1A1	1/-	123456789012345
1A1A1	1/1	A1234567 23456
	1/-	D1234567 23456
	2/1	A1234567 23456
1A1A1-EQ	1/-	C1234567 23456
1A1A2	1/2	E1234567 23456
	1/3	F1234567 23456
1A1A21C	1/-	AB1234567 23456
	2/-	AC1234567 23456

Figure B-16 Reference Designation Index

B.7.7.2. Table Elements

The element `<table>` and its child elements give the author control of the table structure. The attribute `'frame'` of the element `<table>` defines the outer border of a table. If this attribute is not specified, the table will be completely framed with a 0.25pt black line. The attributes `'colsep'` and `'rowsep'` can make a table appear as if it has a frame when portions have been explicitly turned off using the attribute `'frame'`. For instance, if no attributes `'colsep'` or `'rowsep'` have been set, the default formatting is to frame the entire cell. If the attribute `'frame'` has been set to `"none"`, the table will still have the appearance of being framed due to the cell's formatting. NAVSEA does NOT require the use of the value `"topbot"` for CALS tables. CALS tables may be rotated 90 degrees by using the attribute `'orient'`. The attribute `'orient'` is generally only used for PDF TMs; however, if the TM is going to be published both as an IETM and a PDF TM, and orienting is

needed for the PDF TM, then 'orient' should be used. When this is set to "land" the table is rotated counterclockwise. Rotating the table allows a table width up to 9.4 inches.

B.7.7.2.1. <title>

The element <title> provides the title table. The Viewer/Publisher will automatically generate the word "Table" and the table number, so authors should NOT include them in the table title. Table titles are to be authored in title case and are NOT to have a period at the end of the title.

B.7.7.2.2. <tgroup>

The element <tgroup> provides a subgrouping of rows within a table that all use the same column, span, and formatting specifications. Although <table> allows for multiple instances of <tgroup>, only one should be used. <tgroup> has the mandatory attribute 'cols' which defines the number of columns in the table.

B.7.7.2.3. <thead>

The element <thead> contains the rows of the table that provide the column headings and is mandatory for S1000D formal tables. Column headings must be authored in title case.

B.7.7.2.4. <entry>

The element <entry> identifies a single table cell. Depending on various attribute settings, a cell can span multiple columns and rows. The attribute 'morerows' within <entry> is used to span a cell across multiple rows. The attribute 'morerows' is generally only used for PDF TMs; however, if the TM is going to be published both as an IETM and a PDF TM, and row spanning is needed for the PDF TM, then 'morerows' should be used. The attribute value specifies how many additional rows for the cell to span. For example, if cell was to occupy two rows it would have a value of "1". The default value is set to "0". It is important when spanning rows to make certain the following rows do not have too many cells. When this occurs the cells will shift to the left. Cells will only overflow if the <colspec>s are not defined. When they are defined and the subsequent rows contain too many cells, an error will occur and no PDF will be created.

The attributes 'namest' and 'nameend' within <entry> is used to define the columns to span. Like the attribute 'morerows', the attributes 'namest' and 'nameend' are generally only used for PDF TMs. The attribute 'namest', is used to define the start column of the entry for entries that are spanned across multiple columns. The attribute 'namest' defines the column in which the entry ends. The value entered in 'namest' must have a corresponding column definition (<colspec>). If the attribute 'namest' is specified with no 'nameend', then the entry will span a single column. Standard spans can also be defined by using the element <spanspec> and referencing it using the attribute 'spanname'.

B.7.7.2.5. <colspec>

The optional element <colspec> is used to define the characteristics of a single table column. The element <colspec> is generally only used for PDF TMs; however, if the TM is going to be published both as an IETM and a PDF TM, <colspec> must be used. Although it is an optional element available within <tgroup>, <tfoot>, and <thead>, it should only be defined by <tgroup>. The publisher does not process it when it is a child of <tfoot> or <thead> since it attempts to change the table layout. If <colspec> is used, the number defined must match the number specified by <tgroup>'s 'cols'. Although it is not a required attribute when using <colspec>, the attribute 'colwidth' should be specified for each <colspec> entry. The 'colwidth' value should be the width of the column in inches, but "in" MUST NOT BE part of the value. For example, to have a column two inches wide the 'colwidth' value should be "2.0". All <colspec> 'colwidth's are added together to determine the overall table width. This width should not exceed the available width on the page (7.0 inches) for PDF TMs. IETMs do not have this same limitation because users can scroll horizontally, however extremely large tables may not display properly. When the table width exceeds the

amount of available space it will flow off the page/screen. The element <colspec> should be defined for the table.

B.7.7.2.6. <spanspec>

The optional element <spanspec> is used to define a column span profile that can be used repeatedly in a table. The element <spanspec> is generally only used for PDF TMs; however, if the TM is going to be published both as an IETM and a PDF TM, <colspec> must be used. The required attributes 'namest' and 'nameend' define the columns to span. The required attribute 'spanname' must be unique for the table and is used by the element <entry> to access the pre-defined span parameters. The attributes 'char' and 'charoff' are not used by the publisher.

B.7.7.2.7. <row>

The element <row> identifies the row information in an element <thead>, <tbody>, or <tfoot>. The number of columns consumed by the <entry>s in a row including their spans, and by columns encroached by an <entry> with 'morerows' from a prior row of a <tgroup>, shall not exceed the <tgroup>s attribute 'cols' value. When the <tgroup>s attribute 'cols' value is exceeded, PDF publishing is halted.

B.7.7.2.8. <foldout>

Foldout tables are tables in PDF TMs that will not fit on the standard 8.5 by 11 inches page. The container element <foldout> MUST be used to specify a foldout table. The element <foldout> is generally only used for PDF TMs; however, if the TM is going to be published both as an IETM and a PDF TM, <foldout> must be used. All foldout tables must not exceed 15.00 inches in overall width. The Publisher places them on an 11 by 17 inches page.

B.7.7.2.9. <graphic>

The content model of <table> allows it to contain a element <graphic> instead of a element <tgroup>. This causes the table to be formatted the same as a figure. While the S1000D schemas allow this, NAVSEA does not permit tables that are formatted as graphics.

B.7.7.3. Common Table Attributes

Several of the CALS table attributes can be used on multiple CALS table elements. The paragraph for each attribute will indicate which elements the attribute can be used on.

B.7.7.3.1. 'colsep'

The attribute 'colsep' is used to display or not display the right-side column marker for a given cell. By default it is displayed. This attribute can be specified on the following elements: <table>, <tgroup>, <colspec>, <spanspec>, and <entry>. The Viewer/Publisher processes all 'colsep's at the <entry> level. See Table B-7 for 'colsep' processing and precedence.

Table B-7 'colsep' Processing and Precedence

Order	Criteria	Results
1	<spanspec> with matching 'spanname', colsep="1"	Cell's column border visible
1	<spanspec> with matching 'spanname', colsep="0"	No column border
2	<entry>/colsep="1"	Cell's column border visible
2	<entry>/colsep="0"	No column border
3	<colspec> with matching 'colname', colsep="1"	Cell's column border visible

3	<colspec> with matching 'colname', colsep="0"	No column border
4	<tgroup>/colsep="1"	Cell's column border visible
4	<tgroup>/colsep="0"	No column border
5	<table>/colsep="1"	Cell's column border visible
5	<table>/colsep="0"	No column border

B.7.7.3.2. 'rowsep'

The attribute 'rowsep' specifies the presence or absence of row separator rules (horizontal rules). By default it is active. This attribute can be used on the following elements: <table>, <tgroup>, <colspec>, <spanspec>, <row>, and <entry>. See Table B-8, for 'rowsep' processing and precedence.

Table B-8 'rowsep' Processing and Prededence

Order	Criteria	Results
1	<spanspec> with matching 'spanname', rowsep="1"	Cell's row border visible
2	<spanspec> with matching 'spanname', rowsep="0"	No row border
3	<entry>/rowsep="1"	Cell's row border visible
4	<entry>/rowsep="0"	No row border
5	<colspec> with matching 'colname', rowsep="1"	Cell's row border visible
6	<colspec> with matching 'colname', rowsep="0"	No row border
7	<tgroup>/rowsep="1"	Cell's row border visible
8	<tgroup>/rowsep="0"	No row border
9	<table>/rowsep="1"	Cell's row border visible
10	<table>/rowsep="0"	No row border

B.7.7.3.3. 'valign'

The attribute 'valign' sets the cell's vertical alignment. There are three possible values: "top", "middle", and "bottom". The default setting is dependent upon the cell location (<thead>-middle, <tbody>-top, and <tfoot>-top) and attribute inheritance. This attribute can be used on the following elements: <tbody>, <thead>, <tfoot>, and <entry>. See Table B-9 for attribute 'valign' precedence.

Table B-9 'valign' Precedence

Order	Criteria	Results
1	<entry>/'valign' specified.	Vertical alignment set to attribute value.

2	<entry>/'valign' not specified and element is a part of <tbody>	If <tbody>/'valign' is specified, cell is set to its value otherwise it is set to "top"
3	<entry>/'valign' not specified and element is a part of <tfoot>	If <tfoot>/'valign' is specified, cell is set to its value otherwise it is set to "top"
4	<entry>/'valign' not specified and element is a part of <thead>	If <thead>/'valign' is specified cell, is set to its value otherwise it is set to "bottom"

B.7.7.3.4. 'align'

The attribute 'align' sets the cell's hoizontal alignment and can be defined by <tgroup>, <colspec>, <spanspec>, and <entry>. There are five possible values: "left", "right", "center", "justify", and "char". "char" and "justify" are not supported. The default setting is dependent upon the cell location (<thead>-centered, <tbody>-left, and <tfoot>-left) and attribute inheritance. See Table B-10 for attribute 'align' precedence. The publisher attempts to minimize the need to define cell alignments by defaulting them. It is often desired to have one column centered, the next right justified and so on. When this occurs, alignment should be declared on the element <colspec>. Each cell will inherit the alignment specified by its colspec unless the <entry> is part of a row where column or row spanning occurs. In cases where spanning is present, the publisher cannot accurately determine which column it is in. Therefore, it is recommended to explicitly declare the alignment in rows where spanning occurs. NOTE: <thead> alignment does not inherit <colspec> alignment. By default they are centered. If another alignment is desired it must be declared.

Table B-10 'align' Precedence

Order	Criteria	Results
1	<spanspec> with matching 'spanname','align' declared.	Alignment set to <spanspec> attribute value.
2	<entry>/'align' specified.	Alignment set to attribute value.
3	<entry>/'align' not specified and element is a part of <thead>.	Alignment defaults to "center"
4	<entry>/'align' not specified, <colspec> alignment declared and not part of a row with spanning.	Alignment set to <colspec> attribute value.
5	<entry>/'align' not specified, <colspec> alignment not declared and <tgroup> alignment declared.	Alignment set to <tgroup> attribute value.

B.7.8. Multimedia (IETM only)

Multimedia includes video, audio, and animation. The following elements and attributes are used for multimedia tagging.

B.7.8.1. <multimedia>

The element <multimedia> contains the child elements <title> and <multimediaObject>. NAVSEA requirements allow for only ONE element <multimediaObject> within an element <multimedia>.

B.7.8.1.1. Multimedia <title>

Each element <multimedia> MUST contain an element <title>; for NAVSEA TMs it is mandatory, not optional. The contents of the title element will appear in the TOC or the List of Illustrations tab or as a rendered hyperlink in an internalRef statement (for example: Gear Maintenance Video). When the contents of the title element are enabled (via left mouse click), the graphics pane shall display the multimedia file identified by the attribute 'infoEntityIdent' of the element <multimediaObject>.

B.7.8.1.2. <multimediaObject>

The element <multimediaObject> contains an optional child element <parameter>. NAVSEA does NOT permit the use of the child element <parameter>. NAVSEA requires the population of the attribute 'showPluginControls' to actively display the multimedia player controls to the end-user. The 'showPluginControls' value must NOT be changed from its default value of "show". The default value of the attribute 'multimediaType' is "video". If not changed by the author, the multimedia object will be played as a video. The mandatory attribute 'infoEntityIdent' contains the ICN for the multimedia object. For security reasons, NAVSEA requires that the attribute 'autoPlay' on <multimediaObject> shall NOT be changed from its default value of "0" so the multimedia object will not automatically play.

B.7.9. List Elements

The S1000D Schema allows for three types of lists: sequential lists, random lists, and definition lists. Lists may be untitled or titled. To provide a title for a list, the optional child element <title> is used.

B.7.9.1. Sequential List

<sequentialList> is used to present data in a non-random order. Each <listItem> is automatically labeled by the publisher based upon its nested depth. Nesting may not exceed two levels. The Viewer/Publisher will automatically generate the labels for the list elements. When more than two levels are used, the BREX checker will issue an error message. Note that sequential lists may not be used within any step element. To include a sequential list within a note the element <attentionSequentialList> shall be used.

B.7.9.2. Random List

S1000D allows for unordered (bulleted) random lists and simple random lists. NAVSEA only permits unordered random lists. The element <randomList> is used to specify random lists. Bullet format is controlled by the Viewer/Publisher. The attribute 'listItemPrefix' should not be changed from its default value. The BREX will issue an error if the attribute 'listItemPrefix' value has been changed. Nesting may not exceed three levels. The BREX will issue an error if there are more than three levels. To include a random list within an alert or note the element <attentionRandomList> shall be used.

B.7.9.3. Definition List

The element<definitionList> is used to specify a small definition list. The element <definitionListHeader> and its child elements <termTitle> and <definitionTitle>, which allow the author to input headings for the term and definition columns of a definition list, are NOT to be used. The Viewer/Publisher will provide the column headings.

B.7.10. Linking Elements

S1000D, Issue 4.0.1, Chapters 3.9.5.2.1.2 and 3.9.5.2.1.8 provide detailed information on linking. In addition, S1000D, Issue 4.0.1, Chapter 7.7.4 provides detailed information on the S1000D intended level of support for W3C Xlink (http://www.w3.org/TR/xlink/) for IETPs. The NAVSEA publishing and viewing systems have some additional restrictions which will be covered in these paragraphs. A brief overview of linking where the user navigates between objects (i.e., DMs, PMs, etc.) is given here. There are other reference elements within S1000D; however, they are merely containers for one of the constructs discussed here.

B.7.10.1. Linking Within a DM

Branching is defined by NAVSEA TM community to mean that a user remains within a data module; however they have been relocated within the DM. Branching can occur to show a related item of interest or to move to the next step. Either way, the element `<internalRef>`, a container for the reference intra-destination element type as well as the paired IDREF to the appropriate intra-destination element instance, shall be used. It is also possible to create an internal destination into the middle of a graphic within the same DM by using the attribute `'referredFragment'` of the element `<internalRef>` as per S1000D, Issue 4.0.1, Chapter 3.9.5.2.1.8, Paragraph 2.3.

Table B-11 provides the expected relationship between the setting of the attribute `'internalRefTargetType'` text string and the prescribed setting of attribute `'internalRefId'`, an IDREF, to the type designated. Requirement of the 'internalRefID' which is an IDREF must be to a the appropriate element with a target ID of the form “xxx-{unique}” where xxx is prescribed based on the target element type and {unique} is an alphanumeric string such that the combination of xxx-{unique} occurs only once as an ID. The BREX will issue an error if the settings of these two attributes of the element `<internalRef>` are not in harmony.

Table B-11 Relationship Between `'internalRefTargetType'` and `'internalRefID'`

`'internalRefTargetType'` value	**Requirement of the 'id' and `'internalRefID'`**
figure	`<figure id="fig-{unique}">`
table	`<table id="tab-{unique}">`
multimedia	`<multimedia id="mma-{unique}">`
supply	`<supplyDescr id="sup-{unique}">`
supequip	`<supportEquipDescr id="seq-{unique}">`
spares	`<spareDescr id="spa-{unique}">`
para	`<levelledPara id="par-{unique}">`

step	`<proceduralStep id="stp{unique}">`
	-OR-
	`<isolationStep id="stp{unique}">`
	-OR-
	`<isolationProcedureEnd id="stp{unique}">`
	-OR-
	`<crewDrillStep id="stp{unique}">`
	- OR-
	`<checkListStep id="stp{unique}">`

graphic	`<graphic id="gra-{unique}">`
multimediaobject	`<multimediaObject id="mmo-{unique}">`
hotspot	`<hotspot id="hot-{unique}">`

Element <title> shall not contain references; therefore, the use of the <internalRef> on the element <title> is not allowed.

For the WebCGM 2.0 XCF mapping of the element <internalRef> to the WebCGM element <linkuri>, see S1000D, Issue 4.0.1, Chapter 7.3.2, Table 7.

B.7.10.2. Linking to Another DM Within the Same TM

Traversing is defined by NAVSEA TM community to mean that from a given data module a user will be taken outside the current data module. This may be to another S1000D DM (<dmRef>) (within the primary PM), to another S1000D PM (<pmRef>), or to non-S1000D material (<externalPubRef>).

To transverse the user to another DM, the element <dmRef>, a Data Module Code (DMC) reference, shall be used. To transverse the user into the middle of another DM, the attribute 'referredFragment' of the element <dmRef> shall be used with care. These rules avoid a major safety issue where it is possible to by-pass the Preliminary Requirements and any applicable Dangers, Warnings, and Cautions:

- 'referredFragment', an IDREF, shall never be set to the ID of another step in a second DM (e.g., Crew DMs, Procedural DMs, Fault DMs or Check List DMs).
- An element <dmRef> within a step shall not contain an attribute 'referredFragment'. Linking from a step in one DM out to another DM must be to the start of the second DM.
- An element <dmRef> in close up requirements, element <closeRqmts> shall not use the attribute 'referredFragment' because the close up requirements are to be given by referring to a complete data module.
- 'referredFragment' shall **never** be set to reference into the middle of a Procedural DM (e.g., never from a graphic as described in Chapter 3.9.5.2.1.8, Paragraph 2.3.3.

The first three conditions above will cause the BREX to issue an error. Warning refs and caution refs are not allowed.

When authoring an element <dmRef>, the element <dmCode> and the element <dmTitle> shall be provided; however, the use of the element <issueDate> and the element <issueInfo> within the element <dmRef> are prohibited.

For WebCGM graphics, it should be noted a link to another DM can be launched from the graphic. Using the element <linkuri> is the WebCGM equivalent of a <dmRef>. See S1000D, Issue 4.0.1, Chapter 7.3.2, Table 8.

Note that the optional element <behavior> is not supported by the Viewer/Publisher.

B.7.10.3. Linking (Traversing) to Another Publication Outside the TM

To proceed beyond the current TM to another S1000D publication, the element <pmRef>, a Publication Module Code (PMC) reference, shall be used. To proceed beyond the current TM to a non-S1000D publication (to include legacy paper and legacy electronic documents), the <externalPubRef> shall be used. Note that the optional element <behavior> is not supported by the Viewer/Publisher.

References shall be kept to a minimum and shall be limited to Government approved documents such as military specifications and standards, TMs, drawings, engineering change data, training materials, and other approved material which will enhance the clarity and support the repair requirements and processes delineated in the manual.

In order for a link to another S1000D publication using the element <pmRef> to work, the referenced Publication Module and its children need to be published as part of a collection in order for the external link to work. However, authors should be aware that the Viewer does not support having two IETMs open at the same time.

B.7.10.4. Linking within an IETP (XLink Implementation within S1000D)

The direct use of the element `<xlink>` and the xlink: namespace attributes (i.e., `'xlink:href'`, `'xlink:title'`, `'xlink:show'`, `'xlink: actuate'`, `'xlink:type'`) requires significant caution since the results are viewer implementation dependent.

Please refer to S1000D, Issue 4.0.1, Chapter 7.7.4, and note that not all of the W3C Recommendation: XML Linking Language (XLink) Version 1.0 (http://www.w3.org/1999/xlink) provisions are available for S1000D. Contact NSWC Carderock for details.

B.7.11. Alert Elements

The S1000D Schemas contain three levels of alerts with element tags: Warning `<warning>`, Caution `<caution>`, and Note `<note>`. NAVSEA requires a fourth level of alert, Danger, that is triggered by using the attribute `'vitalWarningFlag'` on the element `<warning>`. If there are multiple levels of alerts that apply to the same text, dangers shall appear first, followed by warnings, then cautions, and then finally notes. The author is responsible for enforcing this order of precedence.

B.7.11.1. Danger

Danger is used to highlight a statement or some other notification about an operating or maintenance procedure, practice, or condition that, if not strictly observed **WILL** result in death or serious injury, or threatens the primary mission of the ship. To author a danger, the element `<warning>` is used with the attribute `'vitalWarningFlag'` value set to `"1"`. The Viewer/Publisher formats the signal word “DANGER”. The tagging example for a Danger follows:

```
<warning vitalWarningFlag="1">
  <warningAndCautionPara>
    This is a Danger.
  </warningAndCautionPara>
 </warning>
```

B.7.11.2. Warning

The element `<warning>` is used to highlight a statement or some other notification about an operating or maintenance procedure, practice, or condition that, if not strictly observed, **COULD** result in death, injury, or long-term health hazards. The Viewer/Publisher formats the signal word “WARNING”. To author element `<warning>` as a warning, the attribute `'vitalWarningFlag'` value should not be changed from its default value of `"0"`.

B.7.11.3. Caution

The element `<caution>` is used to highlight statement or other notification about an essential operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to or destruction of equipment, or loss of mission effectiveness. The Viewer/Publisher formats the signal word “CAUTION”.

B.7.11.4. Note

The element `<note>` is used to indicate a special piece of information. The Viewer/Publisher automatically formats the signal word “NOTE”.

B.7.12. Miscellaneous Elements and Attributes

B.7.12.1. Specially Formatted Elements for the PDF Publisher

The PDF Publisher formats several of the S1000D elements as tables. This is done automatically by the Publisher; the author just needs to author the elements and attributes as detailed in the following paragraphs.

B.7.12.1.1. <isolatedFault>

The element <isolatedFault> is automatically formatted as a five column table by the Publisher. The table spans the page width and the column widths are equally distributed. The Publisher auto-generates the column headings of "Fault Code", "Description", "Detection", "Locate and Repair" and "Remarks". A table title of "Isolated Faults" is auto-generated by the Publisher. If only one element <isolatedFault> is specified the auto-generated title is "Isolated Fault". The child elements of the element <isolatedFault> form the contents of single row within the "Isolated Fault" table. Table B-12 details the column assignment for each child element.

Table B-12 Isolated Fault Element Assignment

Fault Code Column	Description Column	Detection Column	Locate and Repair Column	Remarks Column
'faultCode'	<faultDescr>	<detectionInfo> - If not specified, publisher generates a dash ("-").	<locateAndRepair>	<remarks> - If not specified, publisher generates a dash ("-").

B.7.12.1.2. <detectedFault>

The element <detectedFault> is automatically formatted as a five column table by the Publisher. The table spans the page width and the column widths are equally distributed. The Publisher auto-generates the column headings of "Fault Code", "Description", "Detection", "Isolate" and "Remarks". A table title of "Detected Faults" is auto-generated by the Publisher. If only one element <detectedFault> is specified the auto-generated title is "Detected Fault". The child elements of the element <detectedFault> form the contents of single row within the "Detected Fault" table. Table B-13 details the column assignment for each child element.

Table B-13 Detected Fault Element Assignment

Fault Code Column	Description Column	Detection Column	Isolate Column	Remarks Column
'faultCode'	<faultDescr>	<detectionInfo> - If not specified, publisher generates a dash ("-").	<isolateDetectedFault>	<remarks> - If not specified, publisher generates a dash ("-").

B.7.12.1.3. <observedFault>

The element <observedFault> is automatically formatted as a four column table by the Publisher. The table spans the page width and the column widths are equally distributed. The Publisher auto-generates the column headings of "Fault Code", "Description", "Context and Isolation Information", and "Remarks". A table title of "Observed Faults" is auto-generated by the Publisher. If only one <observedFault> is specified the auto-generated title is "Observed Fault". The child elements of the element <observedFault> form the

contents of single row within the “Observed Fault” table. Table B-14 details the column assignment for each child element.

Table B-14 Observed Fault Element Assignment

Fault Code Column	Description Column	Context and Isolation Information Column	Remarks Column
'faultCode' and/or 'faultType'	<faultDescr>	<contextAndIsolationInfo>	<remarks> - If not specified, publisher generates a dash (“-“).

B.7.12.1.4. <correlatedFault>

The element <correlatedFault> is automatically formatted as a three column table by the Publisher. The Publisher auto-generates the column headings of “Fault”, “Isolation”, and “Remarks”. A table title of “Correlated Faults” is auto-generated by the Publisher. If only one <correlatedFault> is specified the auto-generated title is “Correlated Fault”. The child elements of the element <correlatedFault> form the contents of single row within the “Detected Fault” table. Table B-15 details the column assignment for each child element.

Table B-15 Correlated Fault Element Assignment

Fault Column	Isolation Column	Remarks Column
<basicCorrelatedFaults>	<isolateDetectedFault>	<remarks> - If not specified, publisher generates a dash (“-“).

B.7.12.2. Attributes Available for Tailoring

S1000D, Issue 4.0.1, Chapter 3.9.6.1 describes the group of attributes for which the set of allowable values to some extent can be adjusted to the specific needs of a project. Any tailored values will be determined by the program. The program will then need to provide authoring content guidance for attributes with tailored values.

B.7.12.3. 'maintLevelCode'

If a program decides to use the attribute 'maintLevelCode', NAVSEA has assigned specific meanings to the values for this attribute. 'maintLevelCode'="ml51" is used to indicate Operational level (O), 'maintLevelCode'="ml52" is used to indicate Intermediate level (I), and 'maintLevelCode'="ml53" is used to indicate Depot level (D). In the future, use of this attribute will identify the maintenance level required.

B.7.12.4. 'verbatimStyle'

Programs may use "vs72" (blue Courier New font) to indicate user typed input. This is the only allowed use of 'verbatimStyle'.

B.7.12.5. 'itemCharacteristic'

This attribute shall be populated when it applies. In the future, use of this attribute will provide the characteristics of the item that is the subject of a given procedural step. Attribute values will be determined by the program. The program will then provide authoring content guidance.

B.7.12.6. 'quantityUnitOfMeasure'

If any project specific additions of attribute values are needed, the program will determine these values. The program will then provide authoring content guidance.

B.7.12.7. Attributes Not Supported

The following attributes are not supported by the Viewer/Publisher and should not be used:

```
'color'                          'itemOriginator'
'crewMemberType'                 'accessPointTypeValue'
'drillType'                      'descrForItemCode'
'acronymType'                    'updateReasonType'
'supervisorLevelCode'            'reqCondCategory'
'thresholdUnitOfMeasure'         'function'
'limitUnitType'                  'checkListCategory'
'taskCode'                       'reqTechInfoCategory'
'quantityType'                   'sourceTypeCode'
'skillType'                      'sourcceCriticality'
'significantParaDataType'        'pmEntryType'
'crewStepCondition'
```

B.8. Schemas Not Supported

The following schemas are not currently supported by the Viewer/Publisher. The unique elements within these schemas are also not supported.

comment.xsd
dc.xsd
learning.xsd
process.xsd
rdf.xsd
schedule.xsd
scormcontentpackage.xsd
techrep.xsd
wrngdata.xsd
wrngflds.xsd
xcf.xsd

B.9. Business Rules Exchange (BREX) Schema Elements

The BREX will be used to validate that the author's tagging does not violate any Joint Service, Department of Navy, NAVSEA, or project level business rules. An author will not author a BREX. NAVSEA will provide the the files for the Joint Service, Department on Navy, and NAVSEA BREX. The program will provide the file for the project level BREX.