Final Document

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Jeffrey Shuren, IMDRF Chair

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Preface

The document herein was produced by the International Medical Device Regulators Forum (IMDRF), a voluntary group of medical device regulators from around the world. The document has been subject to consultation throughout its development.

1.0 Introduction

Regulated Product Submission (RPS) is a messaging standard produced by HL7 that is designed to enable electronic submission of regulated products – including drugs, devices, food and veterinary medicines. The IMDRF RPS Working Group is evaluating the Regulated Product Submission (RPS) standard to assess whether the standard will meet medical device needs as a harmonized electronic submission format.

As part of the IMDRF evaluation the working group is performing testing of medical device submission scenarios to verify the RPS standard can effectively convey required submission information. This document summarizes information from the first round of IMDRF Beta Testing efforts.

2.0 Scope

This document summarizes the Beta Testing process and results from the IMDRF RPS Working Group efforts prior to the September 2013 RPS Ballot within HL7. Testing efforts are still ongoing. Subsequent test efforts and results will be summarized in additional documents to be released at a later date.

3.0 References

HL7 RPS Draft Standard for Test Use (DSTU)

4.0 Definitions

RPS: Regulated Product Submission. An HL7 standard currently being tested by the IMDRF RPS Working Group.

HL7: Health Level 7.

DSTU: Draft Standard for Trial Use.

Test Case Scenario: A collection of 3 – 5 test cases that are tested together in a particular order. The test case scenario follows a business process that is being tested.

Message: The XML file accompanying the documents contained in the submission unit. The XML file structure is defined by the RPS standard and provides information about how the files included should be reviewed.

Submission Unit: A package of documents to support a regulatory activity that is sent and received together. In paper terms, this is the fed-ex box containing a packet of information sent from industry to the regulator. In RPS terms, this includes the submissionUnit.xml file as well as the accompanying submission files.

Submission: A collection of ***Submission Units*** that support a single regulatory request or activity. The ***Submission*** is what is approved (or disapproved) as a result of the review.

Application: A collection of ***Submissions*** to a country or region that are related based on business and regulatory practices.

Bundled Submission: A Submission Unit that creates or revises a ***Submission*** in more than one ***Application***.

Context of Use: The table of contents section within a submission that a document should be placed in. For example, CH 2.2 General Summary of Submission.

Keywords: A value assigned to a **Context of Use** to allow a reviewer to distinguish between multiple ***Documents*** assigned to the same table of contents section.

Application Reference - A reference in the RPS message to indicate there is a related application that has relevance to the Application being submitted. The reference is simply a pointer to another Application number. It is not specific to content within the referenced Application. The type of relationship indicates the reason for relating the applications together.

5.0 Beta Testing Summary

HL7 standards such as RPS provide a large set of requirements. Use of an HL7 standard requires creation of an Implementation Guide (IG). The IG describes which portions of the RPS standard will be used (and not used) for devices. The IG also provides detail on how elements of the RPS standard will be used to support medical device business processes.

Use of the RPS standard also requires software tools to both create and view an RPS submission. Because sponsors and regulators may use software from different vendors, it is important that the RPS message consistently convey information that is interpreted in the same way by a variety of software tools.

Because of these factors, an RPS submission may fail to meet medical device requirements for one or more of the following reasons:

- The RPS Standard does not provide functionality that meets device needs;
- The IG developed does not clearly convey IMDRF rules for how the RPS standard should be used
- Different software vendors interpret requirements in the IG differently
- The Test Case scenario contained errors or was unclear

With these considerations in mind, the IMDRF Working Group asked multiple vendors to participate in testing (Appendix A). Five vendors agreed to assist.

All participating vendors were provided with a draft IG to be used for testing (Appendix B), and with four detailed test case scenarios (Appendices C, D, E, F). Vendors were asked to provide

sample RPS messages for each test case scenario. This resulted in multiple test samples from multiple vendors for each scenario.

Test samples were reviewed by IMDRF Working Group members to assess whether the samples adequately supported the business scenario. Multiple findings were consolidated into broad finding categories. Each category was analyzed to determine the cause of the issue. The summary of test findings has been included as Appendix G.

As a result of the testing, suggested changes to the RPS Standard were provided during the September 2013 HL7 Ballot. Additional testing is planned to cover untested medical device needs, and to re-test some requirements based on initial test findings.

Appendices

Appendix A: IMDRF Letter of Invitation to RPS Tool Vendors

17 March 2014

IMDRF International Medical Device Regulators Forum

www.imdrf.org

Letter of Invitation to RPS Tool Vendors

In a letter dated September 12, 2012, I invited interested esubmission software tool providers to support the beta testing of the Heath Level Seven(HL7) Regulated Product Submission 2 Draft Standard for Test Use (RPS 2 DSTU) to confirm that it is fit for purpose for medical device applications. This work had been endorsed by the newly formed International Medical Device Regulators Forum (IMDRF) as a New Work Item on the Regulated Product Submission.

IMDRF would like to take this opportunity to thank software tool providers for working with the RPS beta test work group in developing XML samples of Test Case Scenarios (TCS) and in providing valuable feedback on both the TCSs and the testing process. Lessons learned from this interaction will be taken into account in refining the next series of test samples and the draft IMDRF RPS Draft Implementation Specification for Test Purposes.

The RPS beta test working group is pleased to share the following documents in an effort to promote a better understanding of the work conducted to date:

1. Initial IMDRF RPS Implementation Specification for Test Purposes
2. Round One Test Case Scenarios
3. Lessons Learned document

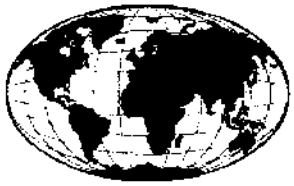
The IMDRF beta test working group plans to perform additional testing of the RPS 2 DSTU in the coming weeks and would once again solicit the interest of any esubmission software tool providers to participate in this exercise. Expressions of interest or any questions related to this matter should be directed to my attention as the chair of the IMDRF RPS working group at the IMDRF RPS email account listed below.

Sincerely,

Mike Ward

Mike Ward
Chair
IMDRF RPS Working Group
imdrfpswg@gmail.com

Appendix B: Regulated Product Submission Implementation Specification for Test Purposes



IMDRF International Medical Device Regulators Forum

International Medical Device Regulators Forum

Title: Regulated Product Submission Implementation Specification for Test Purposes

Authoring Group: IMDRF RPS Work Group

Date: May 31, 2013

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Preface

The document herein was produced by the International Medical Device Regulators Forum (IMDRF), a voluntary group of medical device regulators from around the world.

This IMDRF Regulated Product Submission (RPS) Specification Guide has been developed for the sole purpose of providing interested software venders with information necessary for the testing of the RPS 2 Draft Standard for Test Use in relation to premarket medical device applications. The development of a final IMDRF RPS Specification Guide that would allow for the eventual implementation of the Normative HL7 RPS Standard for device applications would be undertaken in a subsequent phase of the project, subject to endorsement by the IMDRF Management Committee.

INSTRUCTIONS TO READER

This is a technical document that provides instructions on how to implement the HL7 RPS standard for IMDRF. The following content will be provided in a consistent manner within the document and/or the reader may be prompted by visual cues about the context or referenced information being presented in the document.

Document Content

In the document there are several notations that are used to provide clarity to the subject matter. The following table provides visual cues that are used in the document.

Icon	Description
	Technical descriptions
	Items to be careful to follow
	Additional Instructions
	References to other documents

The document refers to XML components (e.g. elements and attributes) versus the concept that it represents. The text will take the following notation:

- XML elements and attributes
  - In narrative text, they will be Bold, Italicized text in Camel case, e.g., ***ContextOfUse***
  - Within the XML, they will be shown as notated below for the XML Snippets.
- Concept without attribution to the model or message
  - Plain text with first letter capitalized as it is a defined concept, e.g., Context of Use

XML Snippets

The following figure indicates the color coding used in the XML snippets and any meaning that should be inferred by the samples.

Text Color	Description *Sample*
Teal	Schema components *<?xml version "1.0" encoding="UTF-8"?>*
Blue	XML notations < ….= "">
Brown	XML element *id code*
Red	XML attribute *root extension*
Black	Value of the element or attribute *2.16.840.1.113883*

Note: XML editors may display these XML components differently, please use the legend above for XML presented in this document.

Required Schema Attributes

The IMDRF HL7 RPS message contains additional attributes that have not been set to a fixed value to provide for future extensibility of the schema. When submitting an IMDRF HL7 RPS submission, these attributes need be sent in with fixed values specified in this document. The value for all other schema attributes will be specifically stated for each element when required.

For example: The ***subject@typeCode*** value must be equal to "DEV" to pass schema validation. Any other value in this field may cause the schema validation to fail.

In the example above, the value for the ***typeCode*** attribute should be "MANU". In the future, this may be fixed in the schema, but for increased extensibility of the schema, it has not been constrained any further.

XML Elements Tables

A table has been provided for each element in the XML message. When elements have multiple element parts or attributes, they are provided in one table. When there are no attributes or values for an element, the cell is grayed out to indicate that no value is required in the XML message.

Table Name: <element>

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
Business Rules				
XPATH				

Table Name: Each table is named for the elements it is representing in the XML – i.e., <element> or <element 2>.

Element: Identifies the XML element

Attribute: Identifies the XML attribute

Cardinality: Provides information on how many times the element/attribute can be repeated in the XML message.

Value(s) Allowed/Examples: Identifies the values allowed using simple data types and any associated examples. References to controlled vocabulary will also be provided

Description/Instructions: Provides a description of the element or attribute

Business Rules: Identifies any business rules that are in place for RPS.

XPATH: Identifies the location of the data element in the XML.

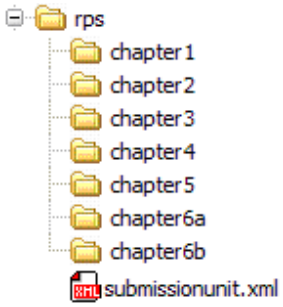
1. SUBMISSION CONTENTS, FOLDER AND FILE STRUCTURE

The folder and file structure specified for the document contents being transmitted along with the XML message will need to follow various specifications and rules as presented below in this section.

1.1 Submission Unit Contents

When submitting the contents of a Submission Unit, the following structure should be used:

Figure 1: RPS Folder Structure



NOTE: The folder structure is still under discussion in the IMDRF RPS Working Group.

The *First Level Folder* will be named "*rps*" and include the following contents:

- The RPS Message should be named "submissionunit.xml" (see figure above).
- The submitter should not send the schema files, the XML should reference the schema found on the HL7 site. Note: Pending Confirmation
- Folders for Chapters 1 – 6b and the content to be included in that submission unit should apply the following rules:
    - Folder structure for Chapters 1 through 6b folders should follow the structure provided in this document.
    - All files included in these folders should be accounted for in the XML Message[1]
    - Files previously sent do not need to be sent again[2]

1.2 File/Folder Naming Conventions

For the Beta Testing, the naming conventions for folders shall follow the folder names presented in the sample above. In addition, there are general naming conventions that include:

- Folder or file names shall have only lower case characters.
- File extensions –

[1] If the file is not included in the XML Message, then the submission may be considered invalid.

[2] If a document is only referenced in the XML Message, it does not need to be included in the attachments.

- All files should have one and only one file extension.
- The file extension should be used to indicate the format of the file.

For the Beta Testing, the naming conventions for folders shall follow the folder names presented in the sample above. Additional guidance for naming convention that is not specified in the sub-sections includes:

- Folder or file names should be written in lower case only.
- All files should have one and only one file extension.
- The file extension should be used to indicate the format of the file.

1.2.1 Allowable Characters

All implementations shall follow the IETF rules for Uniform Resource Locators (URLs) (except for period and asterisk) for file or folder name. The special characters indicated in the table below may be used.

Figure 2: Allowable Special Characters

Special Character	Description
$	Dollar sign, Peso sign
-	Hyphen, Dash
_	Underscore, understrike, low line, low dash
+	Plus sign
!	Exclamation mark
'	Apostrophe, Single quotation mark
(	Left parentheses, Left bracket (UK)
)	Right parentheses, Right bracket (UK)

Consult the IETF documentation on *Uniform Resource Identifier (URI): Generic Syntax RFC 3986.*

1.2.2 Length

The restrictions on file or folder name lengths should follow the specifications below:

- Maximum document (i.e., file) name length: 64
- Maximum folder name length: 64
- Maximum path length including first level folder: 180
  - *Note: this allows the folder structure to exist under a logical drive with high level folder that is applicable to the submitter's environment*
- File name extension = 3 or 4 characters

1.3 Pathname Conventions and Best Practices

The pathname convention should reference the relative folder path using the forward slash (/) character to separate the folders. For example, the following pathname indicates the relative location of the file to the XML submission that it originated E.g.,"module1/coversheet.pdf".

1.4 Checksums

The RPS XML message will contain checksums for all ***Document.text.integrityCheck*** elements. The SHA-256 integrity check algorithm should be applied to obtain a checksum for all files referenced in a ***document*** element within a given submission unit.

The purpose of the checksum is as follows:

- The integrity of each file can be verified by comparing the checksum submitted with the file and the computed checksum
- The checksum can be used to verify that the file has not been altered in the historical archive of the Regulatory Authority. This is especially useful as the files are migrated from one storage medium to another as in the case of backup to magnetic tape storage.

1.5 Compressed Archive

A compressed archive is any collection of files that have been added to an archive and the archive has been compressed to minimize the file size of the archive file (e.g., zip files – with file extension .zip). No zip files are permitted, unless allowed by Regional Implementation Guide.

2. ESSENTIAL COMPONENTS OF THE HL7 RPS SUBMISSION

This section will provide a brief overview of the essential components of the RPS specification. The essential components include:

- Controlled Vocabulary
- OIDS and UUIDS
- Data Types
- RPS XML Schema
- RPS XML Message

Note to Implementers: *The schema does not include the business rules that need to be dynamic to the process. The business rules outlined in the subsequent sections should be handled by any system generating the XML message.*

2.1 Controlled Vocabularies

The RPS Message makes extensive use of controlled vocabularies. The information in the following sub-sections will outline the controlled vocabulary used to implement HL7 RPS for IMDRF. There are several different authoritative sources for the controlled vocabulary, which include IMDRF, Regional Controlled Vocabularies and HL7 for the Beta Testing period.

Note to Implementers: *The controlled vocabulary required by the HL7 RPS standard enables system to system communications and is not always the ideal way to display concepts in a system graphical user interface (GUI). Be cautious not to apply the technical codes in the GUI, instead use the business friendly terms that are specified by Regional Authorities.*

The information in the following sub-sections will outline the controlled vocabulary used in developing a IMDRF RPS message. There are several different authoritative sources for the controlled vocabulary, and as such they are categorized below by the organization that controls the content.

Note to Implementers: *During Beta Testing, the controlled vocabulary will be provided in a spreadsheet format.*

2.1.1 Controlled Vocabularies specified by IMDRF

The controlled vocabularies specified below are managed by IMDRF are provided in a spreadsheet, which includes Beta Testing values.

Note: that this document is for Beta Testing only and is subject to change including all code values provided to support testing.

- Context of Use Codes
- Keyword Type Codes
- Keywords

The controlled vocabularies specified below are managed by Regional Regulatory Authorities are provided in a spreadsheet, which includes Beta Testing values.

Note: that this document is for Beta Testing only and is subject to change including all code values provided to support testing.

- Application Codes

- Application Reference Reason Codes
- Category Event Codes
- Contact Party Codes
- Contact Party Status
- Media Type Codes
- Regulatory Status Codes
- Regulatory Review Time Codes
- Submission Codes
- Submission Unit Codes

2.1.2 Controlled Vocabulary specified by HL7

The controlled vocabularies specified by Health Level 7 (HL7) are provided below with a brief description of the terminology and location for obtaining detailed information.

- **HL7 Document Type Codes:** This vocabulary is provided in the HL7 version 3 Standard for the ***typeCode*** attribute on ***sequelTo*** elements within the XML message. These codes are only required for ***typeCode*** attributes that are not fixed in the XML Schema. The ***codeSystem*** OID (2.16.840.1.113883.5.1002) is not required in the XML message for any ***typeCode*** attribute.

- **HL7 Status Codes:** This vocabulary is provided in the HL7 version 3 Standard for the ***statusCode*** element part on various elements within the XML message. These are values that should be used in the XML message for ***statusCode.code***. The ***codeSystem*** OID is not required for the statusCodes. Note: Status codes can only use the values provided by HL7 (***codeSystem*** OID: 2.16.840.1.113883.5.14).[3]

Note: The IMDRF Testing Group will be submitting harmonization requests to request additional typeCode and statusCode values to meet their business needs. The concepts proposed in this IG have not been submitted at the time of distributing this version of the document.

Note to Implementers: *The controlled vocabulary required by the HL7 RPS standard enables system to system communications and is not always the ideal way to display concepts in a system graphical user interface (GUI). Be cautious not to apply the technical codes in the GUI, instead use the business*

[3] For Beta Testing, a specific value set has not been selected for the FDA CDRH RPS Implementation.

friendly terms that are specified in the Implementation Guide.

2.2 OIDS and UUIDS

There are two types of unique identifiers, Object Identifiers (OIDs) and Universally Unique Identifiers (UUIDs).

2.2.1 Object Identifiers

An OID is a sequence of numbers that uniquely identify an object and represent a hierarchically-assigned namespace. OIDs are formally defined using the International Telecommunications Union ASN.1 standard[4]. OIDS are represented as follows:

- String of digits separated by periods: 2.16.840.1.113883
- list of named branches: {joint-iso-itu-t(2) country(16) us(840) organization(1) hl7(113883)}

The current OIDS for the IMDRF include:

- PENDING

In the HL7 RPS submission, OIDs will be used to provide the codeSystem value for each element that requires a code. Each required element with a code will indicate when an OID should be provided. For example, the XML Snippet below illustrates the code element with a code and codeSystem:

```
<code code="C101708" codeSystem="2.16.840.1.113883.3.26.1.1"/>
```

2.2.2 Universally Unique Identifiers

A UUID is a hexadecimal number in the form of 8-4-4-4-12, including 32 digits and 4 hyphens.[5] UUIDs are formally defined by ISO/IEC 11578:1996 and ITU-T Rec X.667 | ISO/IEC 9834-8:2005. UUIDs are represented as follows:

- String of digits separated by hyphens: 36589652-7894-6589-3256-321852697531

In the HL7 RPS Submission, UUIDs will be used for any instance identifier root attribute value. Each required element with an identifier (e.g., id or code) will indicate when a UUID should be provided. For example, the XML Snippet below illustrates the id@root attribute for the RPS Submission:

```
<id root="e48f95a8-c34f-4a3f-8664-fcd1dc6f9493"/>
```

[4] International Telecommunication Union, x680: Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation

[5] International Telecommunication Union, x667: Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities: Generation and registration of Universally Unique Identifiers (UUIDs) and their use as ASN.1 object identifier components

The use of UUIDs enables for the objects to be uniquely identified in a central repository (e.g., database) of submission unit contents from all submitters. If UUIDs are not used, the content and objects may be incorrectly identified and used in the receiving system.

2.3 Data Types

Data Types are another essential component of the HL7 RPS specification. In order to provide all of the information required in the XML message, the data types are represented as elements and attributes. The data type for the elements and attributes are as follows:

- Alpha – allowing only alpha characters to be used (e.g., FDA product code "IRT")
- Alphanumeric – allowing alpha, numeric and special characters[6] to be used in a string. XML should follow W3C standards for alphanumeric values.
- Numeric – only allows numeric characters (e.g., 0 through 9.E+-) to be used in a string for integers and real numbers.
- Boolean: allows a true or false value to be provided.
- nullFlavors: these are used when required values need to be left blank. Null favors are based on HL7 Messaging standard, and constraints will be mentioned for each XML element.[7]

2.4 HL7 RPS XML Schema

This section will outline the required schema files for the RPS Message.[8] The schemas are organized by category and sub-categories in the table below.

NOTE: The schemas below have been flattened and provided as a separate file for IMDRF Beta Testing activities.

	Major Category	Schema Files	
1	**Core Schemas:** A common schema set for all HL7 v3 messages	infrastructureRoot-r2.xsd voc-r2.xsd datatypes-rX-cs.xsd iso-21090hl7-r2_datatypes.xsd	Referenced by core schema files: infrastructureRoot.xsd datatypes.xsd datatypes-base.xsd NarrativeBlock.xsd voc.xsd

[6] Only UTF-8 character set is allowed.

[7] Currently, nullFlavors are not used in the HL7 RPS submission.

[8] At the time of publication, no changes have been made to the HL7 Schema, but there are several outstanding issues that may require a FDA CDRH specific version of the schema files.

IMDRF
WG/NXR2

	Major Category	Schema Files	
2	**RPS Schema:** A schema set for the RPS compliant message	**Interactions:** PORP_IN000001UV01.xsd **Message Type:** PORP_MT000001UV01.xsd	**Control Act:** MCAI_MT700201UV01.xsd MCAI_MT900001UV01.xsd **Transmission**: MCCI_MT0001000UV01.xsd

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		Referenced Schema Files	
3	**Common Product Model Schema:** The Common Product Model schemas referenced by the RPS Schemas.	POCP_MT010100UV.xsd POCP_MT010200UV.xsd POCP_MT010300UV.xsd POCP_MT010400UV.xsd POCP_MT010600UV.xsd POCP_MT020100UV.xsd POCP_MT020200UV.xsd POCP_MT030100UV.xsd POCP_MT030200UV.xsd POCP_MT030300UV.xsd POCP_MT040100UV.xsd POCP_MT050100UV.xsd POCP_MT050200UV.xsd POCP_MT050400UV.xsd	POCP_MT060000UV.xsd POCP_MT060100UV.xsd POCP_MT060200UV.xsd POCP_MT070000UV.xsd POCP_MT070100UV.xsd POCP_MT070200UV.xsd POCP_MT080200UV.xsd POCP_MT080300UV.xsd POCP_MT081100UV.xsd POCP_MT082100UV.xsd POCP_MT090100UV.xsd
4	**Common Message Elements Schema:** The CMETs referenced by the Common Product model or RPS Schemas	COCT_MT030203UV07.xsd COCT_MT040203UV01.xsd COCT_MT050002UV07.xsd COCT_MT070000UV01.xsd COCT_MT090100UV01.xsd COCT_MT090300UV01.xsd	COCT_MT150000UV02.xsd COCT_MT150003UV03.xsd COCT_MT240003UV02.xsd COCT_MT440001UV.xsd COCT_MT710000UV07.xsd

2.5 XML Components

The following HL7 RPS message components are based on HL7 Version 3 Regulated Product Submission (RPS) Release 2 Draft Standard for Trial Use (DSTU). The information for each element is provided in discrete sections, i.e., they are not nested in the same structure of the XML Schema.

The following table provides a breakdown of the RPS XML structure with the relevant elements presented in this document.

426 **Table 1: XML Structure**

XML Structure
The RPS Message begins by identifying the ***subject*** element. The payload message starts with the ***submissionUnit*** element and relates the rest of the elements to the Submission Unit being sent. The ***submissionUnit*** element contains the following elements and their attributes: • ***callBackContact.contactParty*** • ***subject.categoryEvent*** o ***subject.categoryEvent (sub-category)*** • ***component.contextOfUse*** o ***links.relatedContextOfUse*** o ***sequelTo.relatedContextOfUse*** o ***derivedFrom.documentReference*** o ***subjectOf.submissionReference*** o ***referencedBy.keyword*** • ***componentOf.submisison***

```
<subject typeCode="SUBJ">
        <submissionUnit>
            <id></id>
            <code></code>
            <title></title>
            <statusCode></statusCode>
            <callBackContact>
                <contactParty>
                    <id></id>
                    <statusCode></statusCode>
                    <contactPerson>
                        <name xsi:type="BAG_EN">
                            <item><part/></item>
                        </name>
                        <telecom xsi:type="BAG_TEL">
                            <item></item>
                        </telecom>
                    </contactPerson>
                </contactParty>
            </callBackContact>
            <subject>
                <categoryEvent>
                    <code></code>
                    <subject>
                        <categoryEvent>
                            <code></code>
                        </categoryEvent>
                    </subject>
                </categoryEvent>
```

XML Structure

```
            </subject>
            <component>
                <priorityNumber value=""/>
                <contextOfUse>
                    <id></id>
                    <code></code>
                    <title></title>
                    <statusCode></statusCode>
                    <setId></setId>
                    <versionNumber value=""/>
                    <primaryInformationRecipient>
                        <territorialAuthority>
                            <governingAuthority>
                            </governingAuthority>
                        </territorialAuthority>
                    </primaryInformationRecipient>
                    <links typeCode="ELNK">
                        <relatedContextOfUse>
                            <id></id>
                        </relatedContextOfUse>
                    </links>
                    <sequelTo typeCode="RPLC">
                        <relatedContextOfUse>
                            <id></id>
                        </relatedContextOfUse>
                    </sequelTo>
                    <derivedFrom>
                        <documentReference>
                            <id></id>
                        </documentReference>
                    </derivedFrom>
                    <subjectOf negationInd="">
                        <submissionReference>
                            <id xsi:type="DSET_II">
                                <item></item>
                            </id>
                        </submissionReference>
                    </subjectOf>
                    <referencedBy>
                        <keyword>
                            <code></code>
                            <statusCode></statusCode>
                        </keyword>
                    </referencedBy>
```

XML Structure
</contextOfUse> </component>
This section of the XML relates to specifying the ***Submission*** element. The following elements may follow the Submission: • **sequenceNumber** (included as an element of the relationship between ***submissionUnit*** and Submission) • **callBackContact.contactParty** • **subject1.mode** • **subject2.review** • **subject3.regulatoryReviewTime** • **subject4.regulatoryStatus** • **subject5.submissionGroup**
<componentOf> <sequenceNumber></sequenceNumber> <submission> <id></id> <code></code> <callBackContact> <contactParty> <id></id> </contactParty> </callBackContact> <subject1> <mode> <id></id> </mode> </subject1> <subject2> <review> </review> </subject2> <subject3> <regulatoryReviewTime> <code></code> </regulatoryReviewTime> </subject3> <subject4> <regulatoryStatus> <code></code> </regulatoryStatus> </subject4> <subject5> <submissionGroup> <id></id> </submissionGroup> </subject5>

XML Structure

This section of the XML relates to the ***application*** element. The application section contains the following elements and their attributes:

holder.applicant
informationRecipient.territorialAuthority
subject.reviewProcedure
reference.applicationReference
component.document
component.document
referencedBy.keyword
referencedBy.keywordDefinition
replacementOf.previousKeywordDefinition

```
<componentOf>
    <application>
        <id>
            <item root="" extension=""/>
        </id>
        <code></code>
        <holder>
            <applicant></applicant>
        </holder>
        <informationRecipient>
            <territorialAuthority>
                <governingAuthority>
                    <id></id>
                    <name>
                        <part value=""/>
                    </name>
                </governingAuthority>
            </territorialAuthority>
        </informationRecipient>
        <subject>
            <reviewProcedure>
                <code></code>
            </reviewProcedure>
            </subject>
            <reference>
                <applicationReference>
                    <id></id>
                </applicationReference>
            </reference>
```

XML Structure

```
<component>
    <document>
        <id></id>
        <code></code>
        <title></title>
        <text integrityCheckAlgorithm="SHA256" value=""
    language="">
            <reference value=""/>
        <integrityCheck></integrityCheck>
        </text>
        <statusCode></statusCode>
        <versionNumber value=""/>
        <component>
            <priorityNumber value=""/>
                <document>
                    <id></id>
                </document>
        </component>
        <referencedBy>
            <keyword>
                <code></code>
                <statusCode></statusCode>
            </keyword>
        </referencedBy>
    </document>
</component>
    <referencedBy>
        <keywordDefinition>
            <code></code>
            <statusCode></statusCode>
            <value >
                <item>
                    <displayName></displayName>
                </item>
            </value>
            <replacementOf>
                <previousKeywordDefinition>
                    <code></code>
                    <value >
                        <item>
                            <displayName></displayName>
                        </item>
                    </value>
                </previousKeywordDefinition>
            </replacementOf>
        </keywordDefinition>
    </referencedBy>
```

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XML Structure
These are the closing element tags for the key elements in the RPS message.

```
                    </application>
                </componentOf>
            </submission>
        </componentOf >
    </submissionUnit>
```

3. SUBMISSION LIFE CYCLE

This section will outline the XML elements required to identify the regulatory activity included in the submission unit. A submission unit may follow one of the following patterns:

- Single regulatory activity life cycle – one submission and one application related to the content being submitted in the submission unit
- Bundled regulatory activity life cycle – more than one submission and application related to the content being submitted in the submission unit. Each submission in the bundle is identified and all content in the submission unit is related to all submissions in the bundle unless otherwise noted.

Additional business requirements will be specified in regional implementation guides (e.g. FDA Modular Submission)

Need to add a figure/diagram of the elements – e.g., application – submission – submission unit and related elements for the regulatory activities.

3.1 Application

An application is the collection of regulatory activities for the specific application type being submitted – e.g. specified in Regional Implementation Guides. The application element will identify the type of application and a unique identifier as well as the local identifier issued by the Regulatory Authority. There is usually one application identified in a submission unit, or more than one for a bundled submission.

…
*[This XML section will repeat for each **application** element. A **submission** element is a **componentOf** an **application** element]- need to have a generic example here*
…

```
<componentOf>
    <application>
        <id>
            <item root="12345678-1234-1234-1233-123456789012"
        extension="PMA200002"/>
```

```
        </id>
        <code code="C80442" codeSystem="2.16.840.1.113883.3.26.1.1"/>
                …
                [Additional information may appear after the addition of the
                application.code, for example any of the following elements related to
                application – component, referencedBy, informationRecipient,
                reference, subject, or holder]
                …
    </application>
</componentOf>
```

3.1.1 application.id.item

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
id.item		[1..1]		This is a container element of the following attributes by which it uniquely identifies the application.
	root	[1..1]	Valid UUID	This attribute is for a global unique identifier.
	extension	[1..1]	Alpha Numeric	This attribute provides a location to specify a regional requirement
Business Rules	The ***id.item@root*** attribute should stay the same for an ***id.item@extension*** value through the entire life cycle of the regulatory activity.			
XPATH				
root	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/componentOf/application/id/item/@root			
extension	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/componentOf/application/id/item/@extension			

3.1.2 application.code

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
code		[1..1]		This is a container element that organizes the coded value for the application.
	code	[1..1]	Alpha Numeric	The code is a unique value that indicates the type of content in the application based on Regional Controlled Vocabulary
	codeSystem	[1..1]	Valid OID	The codeSystem is a unique identifier that indicates the controlled vocabulary system. *This should be the OID registered for the code system.*
Business Rules	There must be one and only one ***code.code*** attribute specified for an application.			
XPATH				
code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/componentOf/application/code/@code			
codeSystem	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/componentOf/application/code/@codeSystem			

3.2 Application Reference

An application reference allows the submitter to indicate any related applications – i.e, regional document references (e.g., Master File) or predicate device applications. When providing a reference to an existing application on file, a reason code should be provided to indicate how the application is being referenced in the current submission unit. Application references should be provided once for an application as it will be applicable to all regulatory activities in that application.

```
<reference>
    <applicationReference>
        <id root="GUID#1" extension="M130001"/>
        <reasonCode>
            <item code="C99999" codeSystem="OID"/>
```

```
                    </reasonCode>
                </applicationReference>
            </reference>
```

3.2.1 applicationReference.id

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
id		[1..*]		This is a container element of the following attributes by which it uniquely identifies the application that is being referenced.
	root	[1..1]	Valid UUID	This attribute is for a global unique identifier.
	extension	[1..1]	Alpha Numeric	This attribute provides a location to specify a regional specific application tracking number.
Business Rules				
XPATH				
Root	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/componentOf/application/reference/applicationReference/id@root			
extension	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/componentOf/application/reference/applicationReference/id@extension			

3.2.2 applicationReference.reasonCode

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
reasonCode		[1..*]		This is a container element that organizes the coded value for the reason an application is being referenced.
	code	[1..1]	Alpha Numeric .	The code is a unique value that indicates the reason for referencing an application based on Regional Controlled Vocabulary
	codeSystem	[1..1]	Valid OID	The codeSystem is a unique identifier that indicates the controlled vocabulary system. *This should be the OID registered for the code system.*
Business Rules	Provide as many application references as necessary for the application being submitted.			
XPATH				
code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/componentOf/application/reference/applicationReference/reasonCode/item/@code			
codeSystem	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/componentOf/application/reference/applicationReference/reasonCode/item/@codeSystem			

3.3 Category Event

The category event allows the sender to identify the type of submission unit being sent – this can be a category and subcategory. This is in addition to a code value assigned to the submission unit. A controlled vocabulary sets for the allowable values – i.e., these are not user-defined values.

```
<subject>
    <categoryEvent>
        <--Category-->
        <code code="" codeSystem=""/>
        <subject>
            <--Sub-category, if applicable-->
            <categoryEvent>
                <code code="" codeSystem=""/>
            </categoryEvent>
        </subject>
    </categoryEvent>
</subject>
```

3.3.1 categoryEvent.code

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
code		[0..1]		This is a container element that organizes the coded value for the category event.
	code	[1..1]	Alpha Numeric *e.g., pending example*	The code is a unique value that indicates the category event(s) based on Regional Controlled Vocabulary
	codeSystem	[1..1]	Valid OID	The codeSystem is a unique identifier that indicates the controlled vocabulary system. *This should be the OID registered for the code system.*
Business Rules	There category is serialized only by two levels – i.e., there can only be a category and subcategory per submission unit.			
XPATH				
code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/subject/categoryEvent/code/@code			

codeSystem	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/subject/categoryEvent/code/@codeSystem

3.4 Submission

A submission is considered the Regulatory Activity, which often results in a decision or action against the complete set of regulatory content submitted for consideration. Each application type will have valid submission types. This will be specified by each regulatory authority. (Should we provide examples for some authorities here)

```
<componentOf>
<sequenceNumber value="000000"/>
    <submission>
        <id xsi:type="DSET_II">
            <item root=""/>
        </id>
        <code code="" codeSystem=""/>
        …
        [add description of additional information here]
        …
    </submission>
</componentOf>
```

3.4.1 submission.id

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
id.item		[1..1]		This is a container element of the following attributes by which it uniquely identifies the submission.
	root	[1..1]	Valid UUID	This attribute is for a global unique identifier.
	extension	[1..1]	Alpha Numeric	This attribute provides a location to specify a regional-specific submission value.
Business Rules	Pending business rules.			
XPATH				

root	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/id/item/@root
extension	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/id/item/@extension

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536 ### 3.4.2 submission.code

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
code		[1..1]		This is a container element that organizes the coded value for the submission.
	code	[1..1]	Alpha Numeric *e.g., Original*	The code is a unique value that indicates the submission value based on regional Controlled Vocabulary
	codeSystem	[1..1]	Valid OID	The codeSystem is a unique identifier that indicates the controlled vocabulary system. *This should be the OID registered for the code system.*
Business Rules				
XPATH				
Code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/code/@code			
codeSystem	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf /submission/code/@codeSystem			

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3.5 Submission Unit

The submission unit is the discrete unit of content that is submitted by the Submitter in one XML message. A submission unit usually represents the content for one submission (or reviewable unit) at a point in time or as a bundled submission. This will be defined by each Regulatory Authority.

```
<subject typeCode="SUBJ">
    <submissionUnit>
        <id root=""/>
        <code code="" codeSystem=""/>
        <title value=""/>
        <statusCode code=""/>

    </submissionUnit>
</subject>
```

3.5.1 submissionUnit.id

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
id		[1..1]		This is a container element of the following attributes by which it uniquely identifies the Submission Unit.
	root	[1..1]	Valid UUID	This attribute is for a global unique identifier.
Business Rules				
XPATH				
id	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/id/@root			

3.5.2 submissionUnit.code

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
code		[1..1]		This is a container element that organizes the coded value for the submission unit.
	code	[1..1]	Alpha Numeric *e.g., pending*	The code is a unique value that indicates the submission unit value

			example	based on regional Controlled Vocabulary
	codeSystem	[1..1]	Valid OID	The codeSystem is a unique identifier that indicates the controlled vocabulary system. *This should be the OID registered for the code system.*
Business Rules				
XPATH				
code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/code/@code			
codeSystem	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/code/@codeSystem			

3.5.3 submissionUnit.title

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
title		[0..1]		This is a container element that organizes the title of the submission unit.
	value	[1..1]	String *e.g.,*	This attribute is for a string value that describes the submission unit.
Business Rules				
XPATH				
value	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/title/@value			

3.5.4 submissionUnit.statusCode

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
statusCode		[0..1]		This is a container element that organizes the coded value for the status code.

	code	[1..1]	Alpha Numeric *e.g., active*	The code is a unique value that indicates the status code based on HL7 vocabulary.
Business Rules				
XPATH				
Code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/statusCode/@code			

3.6 Submission Group

The submission group should be used for bundled submissions when submitting the option for bundles that uses the grouper to identify all submissions in the bundle – i.e., there is one submission unit per submission where the submission group links all submissions in the bundle.

```
<subject5>
    <submissionGroup>
        <id root="000e72a3-adee-47a8-84f7-85e8ba5e3b55"/>
    </submissionGroup>
</subject5>
```

NOTE: The IMDRF RPS Group would like to test the versioning of submission content for each submission and handling the grouping or bundling of submission once the content is received. See section 6.4 for additional details.

3.6.1 submissionGroup.id

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
id		[1..1]		This is a container element of the following attributes by which it uniquely identifies the Submission Group
	root	[1..1]	Valid UUID	This attribute is for a global unique identifier.
Business Rules	The submission group id shall be used to indicate when a submission is part of a group. A submission group shall have more than one submission with a submission group identifier for a submission to be considered bundled.			
XPATH				
id	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/subject5/submissionGroup/id/@root			

4. SUBMITTER OR APPLICANT

The applicant or sponsor of the regulatory submission will be specified by the Regional Implementation Guides.

5. SUBMISSION CONTENTS

The submission contents include all of the metadata required to describe the contents of a regulatory submission, including the description of the document and its placement in a table of contents (i.e., under headings and subheadings).

5.1 Context of Use

The Context of Use is the heading or subheading within a table of contents for which the submission contents (i.e., the documents) should be organized (e.g., sterility, software, labeling). The following is an example of a context of use element in the message:

```
<component>
        <priorityNumber value="100"/>
        <contextOfUse>
            <id root="12345678-1234-1234-1235-123456789012"/>
            <code code="imdrf_123" codeSystem="2.16.840.1.113883.3.989.2"/>
            <statusCode code="active"/>
            <setId root="12345678-1234-1234-1234-12987654321"/>
            <versionNumber value="1"/>

                …
                [Additional information may appear after the addition of the
                contextOfUse versionNumber (if one exists, otherwise this will follow the
                setId (which is required), for example any of the following elements
                related to contextOfUse – primaryInformationRecipient, links,
                sequelTo]
                …

            <derivedFrom>
                <documentReference>
                    <id root="12345671-2313-5364-2786-123875636748"/>
                </documentReference>
            </derivedFrom>
                …
                [Additional information may appear after the addition of the
                contextOfUse.versionNumber (if one exists, otherwise this will follow the
                setId (which is required), for example any of the following elements:
                subjectOf, referencedBy,]
                …
        </contextOfUse>
</component>
```

The following tables provide a complete set of XML elements and attributes required for the ***contextOfUse*** element, and any special instructions.

The ***classCode*** and ***moodCode*** are not required in the RPS XML message, the ***classCode*** is fixed to "ACT" and ***moodCode*** is fixed to "EVN".

5.1.1 contextOfUse.id

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
id		[1..1]		This is a container element that organizes the context of use.
	root	[1..1]	Valid UUID	This attribute is for a global unique identifier.
Business Rules	The ***id@root*** should be unique for every ***contextOfUse*** submitted. The Context of Use ***id@root*** value should only be reused to reactivate a previously inactive Context of Use.			
XPATH				
root	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/contextOfUse/id/@root			

5.1.2 contextOfUse.code

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
		[1..1]		This is a container element that organizes the coded value for the context of use.
	code	[1..1]	Alpha Numeric *e.g., pending example*	The code is a unique value that indicates the Context of Use code based on IMDRF and Regional Controlled Vocabulary.
	codeSystem	[1..1]	Valid OID	The code system is a unique identifier that

				indicates the controlled vocabulary system. *This should be the OID registered for the code system.*
Business Rules	The ***code*** element is required when the ***contextOfUse.statusCode*** is active. The ***code*** element is not required if the ***contextOfUse.statusCode*** is inactive.			
XPATH				
code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/contextOfUse/code/@code			
codeSystem	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/contextOfUse/code/@codeSystem			

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624 5.1.3 contextOfUse.statusCode

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
statusCode		[1..1]		This is a container element that has a controlled terminology code that indicates the status of the Context of Use.
	code	[1..1]	Alpha *e.g., active*	The code is a specified value that indicates whether the Context of Use is still relevant or if it has been removed.
Business Rules	The ***statusCode@code*** must always be sent in the message.			
XPATH				
code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/contextOfUse/statusCode/@code			

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626 5.1.4 contextOfUse.setId

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
setId		[1..1]		This is a container

				element, which is a unique identifier for the Context of Use that remains constant through all versions/revisions of the Context of Use.
	root	[1..1]	Valid UUID	A unique identifier.
Business Rules	The ***setId*** for the first version of a Context of Use should be used for all subsequent versions of that Context of Use within an Application. The ***versionNumber*** and the ***setId@root*** pair should be unique for each version of the Context of Use and only one instance can appear in the submission unit.			
XPATH				
root	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/contextOfUse/setId/@root			

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628 ### 5.1.5 contextOfUse.versionNumber

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
versionNumber		[0..1]		This is a container element, which is an integer value that identifies the version of the Context of Use.
	value	[1..1]	Numeric *e.g., 1, 2, 3*	An integer that increments the Context of Use ***versionNumber.***
Business Rules	The ***versionNumber*** and the ***setId@root*** pair should be unique for each version of the Context of Use. The first version of the document should start with the value "1" and increment by 1.			
XPATH				
versionNumber	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/contextOfUse/versionNumber/@value			

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5.2 Context of Use Priority Number

If there are more than one Context of Use elements with the same ***contextOfUse.code*** values, the headings may be placed in order by providing a priority number.

```
<component>
    <priorityNumber  value="1"/>
    <contextOfUse>
        <id root=""/>
        <code code="" codeSystem=""/>
        <title value=""/>
        <statusCode code=""/>
        <setId root=""/>
        <versionNumber value=""/>
```

5.2.1 component.priorityNumber

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
priotityNumber		[1..1]		This is a container element for the priority number and its value.
	value	[1..1]	*Numeric* *e.g., 1,2,3*	The value attribute provides a whole number to be used for ordering the Context of Use element.
	updateMode	[0..1]	*Alpha* *e.g., R=Replace*	The ***updateMode*** attribute provides the coded value to indicate if the ***priorityNumber*** has been changed for the Context of Use.
Business Rules	The priority number should be provided for each ***contextOfUse*** element. The value shall be an integer up to 6 digits (e.g., 1 – 999999) for the ***contextOfUse*** element with the same Context of Use code value. It is recommended to start with "100" and intervals of 100 (e.g., "200", "300", etc.) for the initial submission of a CoU. This allows increments of one and tens to be used when reordering and/or inserting CoU. The priority number will be used to order the Context of Use elements for display. If the order of the documents needs to be changed, the ***updateMode*** attribute should be used to indicate if the ***priorityNumber*** has been replaced.			
XPATH				
value	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/priorityNumber/@value			

updateMode	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/priorityNumber/@updateMode

5.3 Document

The document element is used for the purposes of transmitting the information about each document related to an application. Documents (e.g., PDF files) are prepared by the Applicant for review by the Regulatory Authority. One document can be associated with multiple ***contextOfUse*** elements, and may be used in multiple submission units.

```
<component>
    <document>
      <id root="12345678-1234-1234-1234-98987654321"/>
      <title value="General Information"/>
      <text integrityCheckAlgorithm="SHA256" language="en">
        <reference value="../gen-info.pdf"/>
        <integrityCheck>618102bf07065bcc1250594201fe448515f0fa51</integrity
        Check>
      </text>
      ...
          [Additional information may appear after the addition of the text (if one exists,
          otherwise this will follow the component. For example, depending on the type of
          document the following elements may be available to select from the document
          – component, sequelTo, referencedBy]
      …
    </document>
</component>
```

The ***classCode*** and ***moodCode*** are not required in the RPS XML message, the ***classCode*** is fixed to "ACT" and ***moodCode*** is fixed to "EVN".

672 ### 5.3.1 document.id

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
id		[1..1]		This is a container element for the document identifier.
	root	[1..1]	Valid UUID	This attribute is for a global unique identifier of the ***document.***
Business Rules	The ***id@root*** should be unique for every ***document*** element, i.e., there should not be two documents submitted with the same ***id@root*** value.			
XPATH				
root	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/component/document/id/@root			

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674 ### 5.3.2 document.title

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
title		[1..1]		This is the container for the ***title*** element of a document.
	value	[1..1]	Alpha Numeric Sender-specified title *e.g., "General Information"*	This is the ***title*** attribute for the document. *This is a sender-specified value for each document.*
	updateMode	[0..1]	Alpha E.g., A = Add, R= Replace	This is the ***updateMode*** attribute that is used if updating the ***document.title*** element.
Business Rules	The ***title*** element should be used to indicate a human-readable value when displaying the document file to others. When sending a change in the ***title*** element, the ***title@updateMode*** attribute should be provided.			
XPATH				
value	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/component/document/title/@value			
updateMode	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentO			

	f/submission/componentOf/application/component/document/title/@updateMode

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676 ### 5.3.3 document.text

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
text		[0..1]		This is a container element that provides additional information about the document.
	integrityCheckAlgorithm	[1..1]	SHA256	This is the type of integrityCheckAlgorithm that was used for the checksum values provided in integrityCheck element.
	language	[0..1]	Alpha Refer to ISO 639.1 for two-letter language codes	This is the language attribute to indicate the language for the document.
text.reference		[0..1]		This is a container element within the text element for a document.
	value	[1..1]	Alpha Numeric *File path of the document*	This is the value attribute that provides the location of the document with the relative path and filename of the document.
text.integrityCheck		[1..1]	Alpha Numeric *e.g., "618102bf07065bcc1250594201fe448515f0fa61"*	This is the integrity check element, which has the checksum value.

Business Rules	The ***text*** element should only be used when sending a document for the first time. The ***text@language*** attribute is optional. For file reuse, the ***text*** element must indicate the same ***reference@value***, ***text@IntegrityCheckAlgorithm*** and ***text.integrityCheck*** values of the previously submitted document element.
XPATH	
integrityCheckAlgorithm	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/component/document/text/@integrityCheckAlgorithm
text@value	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/component/document/text/@value
text.reference@vaue	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/component/document/text/reference/@value
integrityCheck	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/component/document/text/integrityCheck

5.4 Document Reference

The document reference element associates a document to the context of use. The document is identified by the id value found for the document in the submission unit or previously provided by the submitter (i.e., the document may not be included in the XML message).

```
<derivedFrom>
    <documentReference>
        <id root=""/>
    </documentReference>
</derivedFrom>
```

The ***classCode*** and ***moodCode*** are not required in the RPS XML message, the ***classCode*** is fixed to “ACT” and ***moodCode*** is fixed to “EVN”.

Conditions that apply to the ***documentReference*** element:

- Zero to one ***documentReference*** elements can be sent for each ***contextOfUse.***
- For a contextOfUse.statusCode= active – the ***documentReference*** element is required.
- For a contextOfUse.statusCode= inactive – the ***documentReference*** element should not be provided.

5.4.1 documentReference.id

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
id		[1..1]		This is a container element for a reference to a Document.
	root	[1..1]	Valid UUID	This attribute is for a global unique identifier of the Document being referenced.
Business Rules	The ***id@root*** is a reference to a document sent in the submission unit or a previously submitted submission unit.			
XPATH				
root	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/contextOfUse/derivedFrom/documentReference/id/@root			

5.5 Keywords

Keywords are code values that indicate a keyword that is used in conjunction with the Context of Use value (i.e., table of content heading) to organize submission contents.

The following XML provides an example of how to provide the keyword as a reference on either a Context of Use or Document.

```
<referencedBy>
    <keyword>
        <code code="IMDRF-Species-4" codeSystem="2.16.840.1.113883.3.989.2"/>
    </keyword>
</referencedBy>
```

The ***classCode*** and ***moodCode*** are not required in the RPS XML message, the ***classCode*** is fixed to "ACT" and ***moodCode*** is fixed to "EVN".

Conditions that apply to the ***keyword*** element:

- Zero to many ***keyword*** elements can be sent for each ***document or contextOfUse*** element.

5.5.1 keyword.code

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
code		[1..1]		This is a container element that identifies the keyword.
	code	[1..1]	Alpha Numeric e.g., "M123456" for Manufacture Site	This is the ***code*** attribute that identifies the code value for the keyword.
	codeSystem	[1..1]	Valid OID	This is the ***codeSystem*** OID that is a unique identifier for the controlled vocabulary system. *This should be the OID registered for the code system.*
Business Rules	The display name for the ***code*** needs to be retrieved from the corresponding code system.			
XPATH				
code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/component/document/referencedBy/keyword/code/@code			
codeSystem	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/component/document/referencedBy/keyword/code/@codeSystem			

5.6 Keyword Definitions

The Keyword definitions allow the submitter to send a set of keyword definitions that should be used in conjunction with the headings to organize the submission contents.

The following XML sample shows one ***keywordDefinition*** of type, manufacturer.

```
<referencedBy>
    <keywordDefinition>
        <code code="IMDRF-manufacturer"
        codeSystem="2.16.840.1.113883.3.989.2"/>
```

```
                    <statusCode code="active"/>
                    <value>
                       <item code="MANU001" codeSystem="CompanyOID-
                    ManufacturerKeyword">
                            <displayName value="Big Device Manufacturer"/>
                       </item>
                    </value>
               </keywordDefinition>
          </referencedBy>
```

The ***classCode*** and ***moodCode*** are not required in the RPS XML message, the ***classCode*** is fixed to "ACT" and ***moodCode*** is fixed to "EVN".

Conditions that apply to the ***keywordDefinition*** element:

- Zero to many ***keywordDefinition*** elements can be sent for each ***application*** element
- A ***keywordDefinition*** should be provided for sender-specified keywords.

5.6.1 keywordDefinition.code

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
code		[1..1]		This is a container element that identifies the type of keyword definition.
	code	[1..1]	Alpha Numeric *e.g., "IMDRF-manufacturer"*	This is the ***code*** attribute for the coded value of the type of keyword definition.
	codeSystem	[1..1]	Valid OID	This is the ***codeSystem*** OID that is a unique identifier for the controlled vocabulary system. *This should be the OID registered for the code system.*
Business Rules	The ***code*** must be from a valid Keyword code type.			
XPATH				

code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/referencedBy/keywordDefinition/code/@code
codeSystem	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/referencedBy/keywordDefinition/code/@codeSystem

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742 ### 5.6.2 keywordDefinition.statusCode

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
statusCode		[1..1]		This is a container element that identifies the status of the keywordDefinition.
	code	[1..1]	Alpha *e.g., active*	This is the code value for the status.
Business Rules	The ***code*** attribute should always have a value of "active".			
XPATH				
code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/referencedBy/keywordDefinition/statusCode/@code			

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744 ### 5.6.3 keywordDefinition.value

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
value		[1..1]		This is a container element for the keyword defined for the keyword code provided for keywordDefinition.
value.item		[1..1]		This is a container element to specify an individual keyword identifier.
	code	[1..1]	Alpha Numeric Sender specified value *e.g.,*	This is the ***code*** attribute for the keyword being defined.

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
			MANU001	
	codeSystem	[1..1]	Valid OID	This is the ***codeSystem*** OID that is a unique identifier for the controlled vocabulary system.
value.item.displayName		[1..1]		This is a container element to specify the ***displayName,*** which is the value of the keywordDefinition code.
	value	[1..1]	Alpha Numeric Sender specified value e.g., “Big Device Manufacturer”	This is the value attribute for the ***displayName*** of the keyword being defined.
	updateMode	[0..1]	Alpha e.g., A= Add R=Replace	The update mode should be used to make changes to the keywordDefinition’s display name value.
Business Rules	Each ***keywordDefinition*** can only contain one sender-specified keyword. The ***displayName@value*** is the only attribute that can be updated, at which time the ***displayName@updateMode*** should be provided.			
XPATH				
code	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/referencedBy/keywordDefinition/value/item/@code			
codeSystem	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/referencedBy/keywordDefinition/value/item/@codeSystem			
value	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/componentOf/submission/componentOf/application/referencedBy/keywordDefinition/value/item/displayName/@value			

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5.7 Related Context of Use

A related Context of Use is used in the Context of Use life cycle when one Context of Use element is replaced with another.

5.7.1 Sequel To

A sequelTo relationship is used when one context of use is replaced by another. This element is typically sent by the applicant when a context of use reorganizes content in the table of contents headings. This element will indicate the context of use that has been replaced as it is associated with the replacement context of use element.

```
<sequelTo typeCode="RPLC">
    <relatedContextOfUse>
        <id root="UUID"/>
    </relatedContextOfUse>
</sequelTo>
```

The ***classCode*** and ***moodCode*** are not required in the RPS XML message, the ***classCode*** is fixed to "ACT" and ***moodCode*** is fixed to "EVN".

5.7.1.1 *sequelTo.relatedContextOfUse.id*

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
id		[1..1]		This is a container element for a related contextOfUse as referenced by an identifier.
	root	[1..1]	Valid UUID	This is the root element that provides the global unique identifier for the ***relatedContextOfUse*** element being replaced.
Business Rules	One ***contextOfUse*** element can be replaced by one or more ***relatedContextOfUse*** elements.			
XPATH				
root	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/contextOfUse/links/relatedContextOfUse/id/@root			

5.8 Submission Reference

This element should only be used with bundled submissions to indicate when content is not applicable to all submissions in the bundle – i.e., this is a negation indicator that negates the submission for a context of use. A submission reference is used on the Context of Use element when the content associated with the context of use does not apply to one or more of the submissions identified in the bundled submission unit. The submitter can identify one or more submissions by the id value (i.e, submissionReference.id.item@root).

```
<subjectOf negationInd="true">
    <submissionReference>
        <id xsi:type="DSET_II">
            <item root="UUID"/>
            <item root="UUID"/>
        </id>
    </submissionReference>
</subjectOf>
```

5.8.1.1 *submissionReference.id.item*

Element	Attribute	Cardinality	Value(s) Allowed *Examples*	Description *Instructions*
id.item		[1..*]		This is a container element for submission reference.
	root	[1..1]	Valid UUID	This is the root element that provides the global unique identifier for the ***submissionReference*** element being provided.
Business Rules	Use this element to show which submissions do not relate to a Context of Use.			
XPATH				
id.item@root	/PORP_IN000001UV/controlActProcess/subject/submissionUnit/component/contextOfUse/subjectOf/submissionReference/id/item/@root			

6. APPENDIX: LIFE CYCLE CONSIDERATIONS

The following sections provide additional information about the life cycle of elements in the RPS Message.

6.1 Context of Use Priority Number

The Context of Use element can be ordered by using the priority number to show the order in which the Context of Use elements should be displayed when they have the same ***ContextOfUse.code***. However, that only applies when the keywords are also the same. The example below depicts an example of how both priority number and keywords are used in relation to the Context of Use.

```
<component>
    <priorityNumber value="100"/>
    <contextOfUse>
        <id root="12345678-9999-8888-7777-098765432109"/>
        <code code=" IMDRF92" codeSystem="2.16.840.1.113883.3.989.2"/>
        <statusCode code="active"/>
        <setId root="12345678-9999-8888-7777-111111111112"/>
        <versionNumber value="1"/>
        <derivedFrom>
        <!—Reference to Simple Document-->
            <documentReference>
                <id root="11111111-2222-3333-4444-999999999999"/>
            </documentReference>
        </derivedFrom>
        <referencedBy>
            <keyword>
                <code
code="MANU001"codeSystem="2.16.840.1.113883.X"/>
            </keyword>
        </referencedBy>
    </contextOfUse>
</component>
<component>
    <priorityNumber value="200"/>
    <contextOfUse>
        <id root="12345678-9999-8888-7777-098765432221"/>
        <code code=" IMDRF92" codeSystem="2.16.840.1.113883.3.989.2"/>
        <statusCode code="active"/>
        <setId root="12345678-9999-8888-7777-665544332211"/>
        <versionNumber value="1"/>
        <derivedFrom>
        <!—Reference to Simple Document-->
            <documentReference>
                <id root="11111111-2222-3333-4444-777777777777"/>
            </documentReference>
```

```
                    </derivedFrom>
                    <referencedBy>
                        <keyword>
                            <code
code="MANU001"codeSystem="2.16.840.1.113883.X"/>
                        </keyword>
                    </referencedBy>
                </contextOfUse>
            </component>
```

6.2 Managing Context of Uses

The life cycle management of a ***contextOfUse*** is covered in this section. Once a ***contextOfUse*** is submitted with its id, ***setId*** and version number, it starts the life cycle for that ***contextOfUse***. The following rules have been harmonized:

- The unique identifier will be the key along with the ***setId*** to ensure that the life cycle is managed.
- Each change to the ***contextOfUse*** will need to reference the id and ***setId***.
- If replacing a Context of Use, the two instances must have the same ***contextOfUse.code*** and associated Keywords (i.e., this will allow it to appear in exactly the same location when it is replaced.
- The replacement of Context of Use will inactivate the ***contextOfUse*** element that was previously sent (i.e., the ***relatedContextOfUse*** element(s)).

The following are reasons for changes to the ***contextOfUse*** through its life cycle:

- **New Version:** To version a ***contextOfUse***, a different document will need to be indicated in the ***documentReference*** element.
- **Removal (Inactivation) of Context of Use:** If the Context of Use needs to be removed at any time during the life cycle of the submission, a submission unit may indicate the removal of the Context of Use by changing the ***statusCode*** element.
- **Reactivation of Context of Use:** If the Context of Use needs to be reactivated after it has been withdrawn or inactivated at any time during the life cycle of the submission, a submission unit may indicate the reactivation of the Context of Use by changing the ***statusCode*** element.
- **Replacement of Context of Use:** If a Context of Use needs to be replaced over time, the ***contextOfUse.code*** value and keyword(s) of the new ***contextOfUse*** element should be the same as the one being replaced. The document referenced by the new ***contextOfUse*** element should be different.

6.2.1 Ordering Context of Use

If a ***submissionUnit*** includes components with the same ***contextOfUse*** code and ***keyword*** code, a priority should be set on the ***component*** to specify the relative display position of the ***contextOfUse*** relative to the other ***contextOfUse*** elements.

```
<component>
        <priorityNumber value="100"/>
        <contextOfUse>
            <id root="12345678-1234-1234-2222-123456789011"/>
            <code code="CDRH6.2" codeSystem="2.16.840.1.113883.3.989.2"/>
            <statusCode code="active"/>
            <setId root="12345678-1234-1234-1234-12987654321"/>
            <versionNumber value="1"/>
            <derivedFrom>
                    <!--Document #2"-->
                <documentReference>
                    <id root="11111111-2222-3333-4444-777777777777"/>
                </documentReference>
            </derivedFrom>
         </contextOfUse>
</component>
<component>
        <priorityNumber value="200"/>
        <contextOfUse>
            <id root="23567845-1234-1234-1234-123456789012"/>
            <code code="CDRH6.2" codeSystem="2.16.840.1.113883.3.989.2"/>
            <statusCode code="active"/>
            <setId root="12345678-9512-1234-4512-12987654322"/>
            <versionNumber value="1"/>
            <derivedFrom>
                    <!--Document #2-->
                <documentReference>
                    <id root="11111111-2222-3333-4444-777777771277"/>
                </documentReference>
            </derivedFrom>
         </contextOfUse>
</component>
```

6.3 Reordering Context of Use

There will be times when the ***contextOfUse*** elements may be sent in the incorrect order for display and the sender wants to correct the order. Reordering can also occur when a new Context of Use element needs to be added (see Section **Error! Reference source**

not found. for additional information) or removed (See Section **Error! Reference source not found.** for additional information).

When the ***contextOfUse*** elements need to be reordered, the following basic rules should be followed:

- If a new component is added during the reordering, that ***contextOfUse*** element does not use the ***contextOfUse.priorityNumber@updateMode*** attribute.
- ***contextOfUse.priorityNumber@updateMode*** is used for the component being renumbered

The following example is the basic reordering of the previous context of use that was sent in the incorrect order. Note: the sender should never or rarely send a submission unit just to reorder ***contextOfUse*** elements. The previous Context of Use with a priority number of 100 does not need to be sent again in this submission unit.

The following example shows the reordering of a previously submitted Context of Use (note that only the required elements and attributes are sent) to have a placement prior to the Context of Use with priority number of 100.

#2– Reordering a Context of Use

```
<component>
        <priorityNumber value="90"/>
        <contextOfUse>
            <id root="23567845-1234-1234-1234-123456789012"/>
            <statusCode code="active"/>
            <setId root="12345678-9512-1234-4512-12987654322"/>
         </contextOfUse>
</component>
```

Note: the example above does not address the additional keywords that may be applied to the Context of Use. For the purposes of the example above, the assumption is that they have the same keywords.

6.3.1 Inserting Context of Use

In subsequent submission units of a submission (i.e., regulatory activity), it may be necessary to add a Context of Use with the same ***contextOfUse.code*** as a previous sequence. The following example adds a new Context of use with the same ***ContextOfUse.code*** as in the previous examples.

#2 – Inserting Context of Use

```
<component>
        <priorityNumber value="95"/>
        <contextOfUse>
            <id root="23567845-1234-1234-1234-123456789013"/>
```

```
            <code code="CDRH6.2" codeSystem="2.16.840.1.113883.3.989.2"/>
            <statusCode code="active"/>
            <setId root="12345678-9512-1234-4512-12987654323"/>
            <versionNumber value="1"/>
        </contextOfUse>
</component>
```

6.3.2 Remove/Inactivate Context of Use

In subsequent submission units of a submission (i.e., regulatory activity), it may be necessary to remove a ***ContextOfUse*** element within the regulatory activity. In this case, the submission will no longer display the Context of Use, i.e., it is not replaced by another ***ContextOfUse*** element.

#2– Removing a Context of Use

```
    <component>
      <contextOfUse>
        <id root="12345678-1234-1234-1234-123456789012"/>
        <statusCode code="inactive"/>
        <setId root="12345678-1234-1234-1234-12987654321"/>
      </contextOfUse>
    </component>
```

Note: The priority number of the Context of Use does not need to be provided.

6.3.3 Reactivate Context of Use

In subsequent submission units of a submission (i.e., regulatory activity), it may be necessary to reactivate a Context of Use element within the regulatory activity. In this case, the Context of Use reappears in the display, i.e., it is relevant to the submission in the current sequence.

#3 – Reactivating a Context of Use

```
    <component>
      <contextOfUse>
        <id root="12345678-1234-1234-1234-123456789012"/>
        <statusCode code="active"/>
        <setId root="12345678-1234-1234-1234-12987654321"/>
      </contextOfUse>
    </component>
```

6.3.4 Replacing Context of Use

In subsequent submission units of a submission (i.e., regulatory activity), it may be necessary to replace a Context of Use element within a new ***ContextOfUse*** element. In this case, the submission will no longer display the previously submitted Context of Use as active, i.e., it has been replaced by another ***ContextOfUse*** element.

The ***relatedContextOfUse*** is used in the scenario to show that one ***contextOfUse*** is related to another ***contextOfUse*** over a period of time. This is a simple relationship and does not include anything but a reference of the unique identifier of the ***relatedContextOfUse***.

```
<component>
        <priorityNumber value="100"/>
        <contextOfUse>
            <id root="12345678-1234-1234-1234-123456789012"/>
            <code code="C79305" codeSystem="2.16.840.1.113883.3.26.1.1" />
            <statusCode code="active"/>
            <setId root="12345678-1234-1234-1234-12987654321"/>
            <versionNumber value="2"/>
           < sequelTo typeCode="RPLC">
                <relatedContextOfUse>
                   <id root="87454521-9874-6541-5124-159842345687"/>
                </relatedContextOfUse>
           </sequelTo>
        </contextOfUse>
</component>
```

6.4 Appendix: Bundled Submissions

A Bundled Submission includes more than one submission and application related to the content being submitted in the submission unit. Each submission in the bundle is identified and all content in the submission unit is related to all submissions in the bundle unless otherwise noted.

The "bundled" concept has historically been created for the management of paper submissions when the same changes needed to be made to multiple submissions for the same regulatory purpose – e.g., manufacturing change that is applicable to all products at the site.

FOR TESTING PURPOSES – The IMDRF RPS Group would like to propose two variations of testing Bundled Submissions. This section is not meant to be prescriptive, but guidelines for you to create sample XML and provide suggestions for the implementation of bundled submissions. For the data element, see Section 3 and 5 for more information.

6.4.1 Option #1 – Bundle all Submissions in one Submission Unit

Objective: The bundle will be defined by the submissions provided in the submission units and the content will be applicable to all submissions in the bundle unless negated by a submission reference on the context of use.

The following issues should be considered when conducting testing of bundled submissions:

- Not all submission content relates to all submissions in the bundle
    - Use the ***negationInd*** to indicate when the CoU does not pertain to a submission in the bundle
- Submission Content may have a different life cycle depending on the submission – i.e., the CoU life cycle is branched
    - There is currently not a way to clearly indicate when a replacement CoU is for one submission and not all submissions in the bundle.

6.4.2 Option #2 – Create a submission unit for all submissions in the bundle and use Submission Group to link the information.

Objective: The bundle will be defined by a submission group that is provided for each submission. Each submission will have its own submission units and the content will be applicable to only that submission. One submission unit will contain all documents that will be used across the bundle – i.e., document reuse. Each submission unit pertains to one submission and application, and therefore keywords will need to be defined for each application in the bundle. Since submission contents are managed at the submission level

The following issues should be considered when conducting testing of bundled submissions:

- Submission contents are managed within each submission – i.e., context of use life cycle is not maintain across all submissions in the bundle
- Submission Group is used to link all submissions in a bundle. Receiving systems should be able to determine "shared" content – i.e., document reused under the same CoU code and keyword pairs
- Submission Grouper does not indicate how many submissions are in the bundle; and processing individual submission units may be complicated by processing errors – i.e., incorrect ordering of processing submission units that create the bundle
    - Need to receive and process the submission unit with all of the content prior to validating that all documents are available for use by other submissions
    - Allows one or more submissions in the bundle to be updated independently without specifying the submissions in the bundle

6.5 Appendix: Two-Way Communication

The approach used by regulatory authorities would be contained in a regional implementation guide.

6.6 Appendix: Controlled Vocabulary

A spreadsheet will be developed for Beta Testing. It will be a combination of IMDRF and regional requirements.

Appendix C: Regulated Product Submissions R2 Test Case Scenario IMDRF-001

(Bundled Submission with multiple changes requested)

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

IMDRF-001: Bundled Submission with multiple changes requested

Test Case No.:	IMDRF-001
Test Case Title:	Bundled Submission with multiple changes requested
Test Case Domain:	Medical Devices
IMDRF Requirement Class (global/regional):	Global
IMDRF Requirement or Storyboard No.	2.2.1.2 Adding submission units to an existing submission (PORP_SN000002UV) 2.2.1.3 Creating a new submission to an application (PORP_SN000003UV) 2.2.1.5 One submission unit to multiple applications (PORP_SN000005UV) 2.2.1.6 One submission unit to multiple submissions (PORP_SN000006UV) 2.2.1.8 Withdrawing a submission (PORP_SN000008UV) 2.2.1.9 Send Submission Unit to Regulatory Authority (PORP_SN000030UV) 2.2.2.1 Adding new files to a submission (PORP_SN000009UV)

Test Case Scenario Description:

This test scenario is global, but the example used for testing purposes is FDA specific. For this test scenario an Application is a PMA (PXXXXXX), a submission is a PMA Supplement (PXXXXXX/SXXX), and a Submission Unit (PXXXXXX/SXXX/AXXX) is an Amendment.

Bundled Submissions – a single submission unit that impacts multiple Submissions and associated Applications and products. As an example – a submission that requests approval for a manufacturing change, design change and labeling change that would impact multiple products previously approved within multiple Applications.

- Initial Submission Unit applies to 3 Applications (P092345, P085678, H100123) and defines changes as noted below. The PMA-supplement numbers assigned to the bundle (following FDA receipt of the Submission Unit) are:P092345/S099, P085678/S078,and H100123/S023.
- Submission Unit #1 - The initial Supplement to each of the Applications

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

- Design change - P092345/S099, P085678/S078
- Design change -H100123/S023
- Packaging change - P092345/S099, P085678/S078,and H100123/S023
- Sterilization - P092345/S099, P085678/S078,and H100123/S023
- Labeling - P092345/S099, P085678/S078,and H100123/S023

Submission Unit #2 - Response to Additional Information Request - Design

- Design change - P092345/S099/A001 (different doc reference)
- Design change - H100123/S023/A001 (adding a new document)

- Submission Unit #3 - Response to Additional Information Request - Packaging/Sterilization
  - Packaging change - P092345/S099/A002, P085678/S078/A001, H100123/S023/A002 (life cycle content)
  - Sterilization - P092345/S099/A002, P085678/S078/A001, H100123/S023/A002 (life cycle content)
  - Labeling -P092345/S099/A002, P085678/S078/A001, H100123/S023/A002
- Submission Unit #4 - Response to Additional Information Request
  - Design change -P092345/S099/A003, P085678/S078/A002
  - Design change - H100123/S023/A003
  - Packaging change -P092345/S099/A003, P085678/S078/A002, H100123/S023/A003
  - Sterilization - P092345/S099/A003, P085678/S078/A002, H100123/S023/A003
- Submission Unit #5 - Withdraw of a Submission from Bundle
  - All content related to P092345/S099 (A004)

Test Case	Test Case 1	Test Case 2	Test Case 3	Test Case 4	Test Case 5
Description	Initial contents provided to all submissions in the bundle (Submission Unit #1)	Response to Additional Information Request - Design (Submission Unit #2)	Submission Unit #3 - Response to Additional Information Request - Packaging/Sterilization (Submission Unit #3)	Submission Unit #4 - Response to Additional Information Request (Submission Unit #4)	Submission Unit #5 - Withdraw of a Submission from Bundle (Submission Unit #5)
Affected	P092345/S099,	P092345/S099/A001	P092345/S099/A002	P092345/S099/A003	H100123/S023/A004

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

Test Case	Test Case 1	Test Case 2	Test Case 3	Test Case 4	Test Case 5
Submission/Application	P085678/S078, H100123/S023 (Note: S #s will be assigned by regulator following receipt of the submission unit.)	H100123/S023/A001	P085678/S078/A001 H100123/S023/A002	P085678/S078/A002 H100123/S023/A003	
Changes to Submission Contents	NA	Add new Context of Use elements for ● M3.9 - CoU.code=CH.3.3.1.1 Summary (new document) Lifecycle Context of Use for: ● M3.10 - CoU.code= CH.3.3.1.2 Full Report (new version of previously submitted report)	Lifecycle Context of Use for package and sterilization changes: ● M2.2 - CoU.code= CH.2.1 General Summary of Submission ● M3.48 - CoU.code= CH.3.3.10.2 Manufacturer Sterilization ● M5.2 - CoU.code= CH.5.1Product/Package Labels, Package Insert/Instructions for Use (for each submission)	Add new Contexts of use: ● M3.9 - CoU.code=CH.3.3.1.1 Summary (test (multiple testing instances - one for each submission) ● M3.50 - CoU.code= CH.3.3.10.2.1 Summary ● M3.80 CoU.code=CH.3.6.2.1 Summary	Inactivate all context of use elements related to H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

Test Case #1

Test Case #1:
A Manufacturer is making a change to a series of ablation catheters and pacing leads. There are three families of products impacted by this change. Each family of products is approved under a separate Application (2 PMAs and 1 HDE) in the US.
Design changes are being made to improve manufacturing efficiency. The changes for pacing leads (Design Change B) are slightly different from the catheters (Design Change A). Packaging changes are being made to extend shelf life. Labeling changes must be made based on the design, packaging and shelf life changes. The resulting submission will be a bundled supplement to 2 PMAs and an HDE.
The design changes being made will require 2 types of mechanical testing: fatigue testing (applies to Pacing leads - H100123 only), and electrical testing which applies only to the catheter families (P092345 and P085678).
The packaging changes are being made to all products, and correspond with a request to extend shelf life by 6 months for each product. To support this, sterilization validation and packaging validation have been done. Revised labeling has also be provided to support the changes.

This Initial Submission Unit includes a supplement to three Applications (P092345, P085678,and H100123) and defines the following changes:

- Design change A - P092345/S099, P085678/S078
- Design change B- H100123/S023
- Packaging change - P092345/S099, P085678/S078,and H100123/S023
- Sterilization - P092345/S099, P085678/S078,and H100123/S023
- Labeling - P092345/S099, P085678/S078,and H100123/S023

NOTE: The SXXX numbers following the application numbers will not be assigned by the regulator until after test case 1 is complete, and so should not be reflected as submission numbers in this initial message.

Test Case Objective:

- To submit an initial bundled submission for multiple changes across several submissions/applications. The changes will be applicable to one or all submissions/applications in the bundle.

Test Requirements*:*

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

- The RPS message shall enable a sender to submit one submission unit that initiates new submissions under multiple applications.
- The RPS message shall enable the sender to specify what content is applicable to each of the submissions identified in the bundle by application and submission number.
- The RPS message shall enable the life cycle of submission content across multiple submissions/applications.

[RPS] Data elements	RPS Data Attributes	Notes
Submission Unit	id@root code@code statusCode@code =active	
Submission	id@root code@code	
Submission Group	id@root	
Application	id@root code@code	P092345 P085678 H100123
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

Submission Contents

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
M1.1 - CoU.code= CH.1.0.1 Cover Letter		Cover Letter	P092345/S099, P085678/S078, H100123/S023
M1.3 - CoU.code= CH.1.1 Application Form	FDA Cover Sheet	FDA Application Form	P092345/S099, P085678/S078, H100123/S023
M1.4 - CoU.code= CH.1.1.2 Listing of Device		Listing of Devices	P092345/S099, P085678/S078, H100123/S023
M1.7 - CoU.code= CH.1.4 User Fees		FDA User Fees	P092345/S099, P085678/S078, H100123/S023
M1.8 - CoU.code= CH.1.5 Presubmission Correspondence		Pre-submission Correspondence	P092345/S099, P085678/S078, H100123/S023
M1.9 - CoU.code= CH.1.6 Acceptance for Review Checklist		FDA Review Checklist	P092345/S099, P085678/S078, H100123/S023
M1.15 - CoU.code=CH.1.7.5 Truthful and Accurate Statement		Truthful & Accurate Statement	P092345/S099, P085678/S078, H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
M1.16 - CoU.code=CH.1.7.6 Class III Summary and Certification		Class III Summary & Certification	P092345/S099, P085678/S078, H100123/S023
M2.2 - CoU.code= CH.2.1 General Summary of Submission		Summary of Submission Changes	P092345/S099, P085678/S078, H100123/S023
M3.7 - CoU.code= CH.3.3.1 Physical and Mechanical		Non-Clinical Testing Summary	P092345/S099, P085678/S078, H100123/S023
M3.9 - CoU.code=CH.3.3.1.1 Summary (test	Study description: Flex Texting, study identifier: TRP2112, date of initiation: Jan. 5, 2013	Fatigue Test Summary	H100123/S023
M3.9 - CoU.code=CH.3.3.1.1 Summary (test	Study description: Impedence Testing, study identifier: TRP300 date of initiation: Nov. 2, 2012	Electrical Test Summary	P092345/S099, P085678/S078
M3.10 - CoU.code= CH.3.3.1.2 Full Report	Study description: Flex Texting, study identifier: TRP2112, date of initiation: Jan. 5, 2013	Fatigue Test Report	H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
M3.10 - CoU.code= CH.3.3.1.2 Full Report	Study description: Impedance Testing, study identifier: TRP300 date of initiation: Nov. 2, 2012	Electrical Test Report	P092345/S099, P085678/S078,
M3.48 - CoU.code= CH.3.3.10.2 Manufacturer Sterilization		Sterilization Summary	P092345/S099, P085678/S078, H100123/S023
M3.50 - CoU.code= CH.3.3.10.2.1 Summary	Study description: EtO validation study identifier: TRP9001 Date of initiation: Jan. 15, 2013	Sterilization Validation Summary	P092345/S099, P085678/S078, H100123/S023
M3.51 - CoU.code= CH.3.3.10.2.2 Full Report	Study description: EtO validation study identifier: TRP9001 Date of initiation: Jan. 15, 2013	Sterilization Validation Report	P092345/S099, P085678/S078, H100123/S023
M3.73 - CoU.code= CH.3.6 Expiration Period and Package Validation		Shelf Life & Storage Overview	P092345/S099, P085678/S078, H100123/S023
M3.74 - CoU.code=CH.3.6.1 Expiration Period of the Product		Shelf Life Change Summary	P092345/S099, P085678/S078, H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
M3.76 - CoU.code=CH.3.6.1.1 Summary	Study description: Shelf Life Sterility Study identifier: TRP4554 Date of initiation: June 6, 2012	Shelf Life Test Summary	P092345/S099, P085678/S078, H100123/S023
M3.77 - CoU.code= CH.3.6.1.2 Full Report	Study description: Shelf Life Sterility Study identifier: TRP4554 Date of initiation: June 6, 2012	Shelf Life Test Report	P092345/S099, P085678/S078, H100123/S023
M3.78 - CoU.code=CH.3.6.2 Package Validation		Packaging Validation Summary	P092345/S099, P085678/S078, H100123/S023
M3.80 CoU.code=CH.3.6.2.1 Summary	Study description: Drop Test, Study identifier: TRP3555 Date of initiation: Feb. 4, 2013	Packaging Validation Summary	P092345/S099, P085678/S078, H100123/S023
M3.81 - CoU.code= CH.3.6.2.2 Full Report	Study description: Drop Test, Study identifier: TRP3555 Date of initiation: Feb. 4, 2013	Packaging Validation Report	P092345/S099, P085678/S078, H100123/S023
M5.2 - CoU.code= CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		Catheter Family 1 Package Label	P092345/S099

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
M5.2 - CoU.code= CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		Catheter Family 1 IFU	P092345/S099,
M5.2 - CoU.code= CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		Catheter Family 2 Packaging Label	P085678/S078
M5.2 - CoU.code= CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		Catheter Family 2 IFU	P085678/S078
M5.2 - CoU.code= CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		Pacing Lead Package Label	H100123/S023
M5.2 - CoU.code= CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		Pacing Lead IFU	H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

Test Case #2

Test Case #2:
The FDA asks questions related to the design changes. The Sponsor responds to the questions with an explanation of why the electrical testing methodology provides adequate testing for the catheter family in P092345/S099. The sponsor also provides a new version of the fatigue test report for the family of pacing leads (H100123/S023)

Summary: Submission Unit #2 - Response to Additional Information Request - Design

- Design change - P092345/S099(adding a new document)
- Design change - H100123/S023 (adding a new version of a previously provided test report)

Test Case Objective: Make a change to submission content to support the following actions:

- To provide additional content to support the design change for P092345/S099
- To provide additional content to support the design change for H100123/S023

Test Requirements*:*

- A submission unit can add a new context of use and document to support a change for one of the submissions in a bundled submission.
- New submission contents can apply to only a subset of submissions in the bundle.

[RPS] Data elements	RPS Data Attributes	Notes
Submission Unit	id@root code@code statusCode@code =active	

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

[RPS] Data elements	RPS Data Attributes	Notes
Submission	id@root code@code	App#1= S099 App#2= S078 App#3= S023
Submission Group	id@root	Submission Group
Application	id@root code@code	App#1= P092345 App#2= P085678 App#3= H100123
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	

Submission Contents

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
M1.1 - Cover Letter CoU.code= CH.1.0.1		Cover Letter	P092345/S099, P085678/S078, H100123/S023
M3.9 - CoU.code=CH.3.3.1.1 Summary (test	Study description: Impedance Testing, study identifier: TRP300 date of initiation: Nov. 2, 2012	Electrical Testing Response to Questions	P092345/S099

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

M3.10 - CoU.code= CH.3.3.1.2 Full Report	Study description: Flex Texting, study identifier: TRP2112, date of initiation: Jan. 5, 2013	Fatigue Testing Report v2	H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

Test Case #3

Test Case #3: FDA has asked questions related to the technical data to support the shelf life extension request. The sponsor responds to the request with a revised change description that better describes the packaging change, a revised sterilization validation summary that includes additional explanation of anomalies, and revised instructions for use for all products. Submission Unit #3 - Response to Additional Information Request - Packaging/Sterilization ● Packaging change - P092345/S099, P085678/S078, H100123/S023 (life cycle content) ● Sterilization - P092345/S099, P085678/S078, H100123/S023 (life cycle content) ● Labeling - P092345/S099, P085678/S078, H100123/S023
Test Case Objective: Make a change to submission content to support the following actions: ● To provide additional content to support the sterilization and packaging changes in all of the submissions included in the bundle. ● To provide a life cycle change to previously submitted content for all submissions in the bundle. ● To provide additional content to support the labeling change that are submission-specific. ● To provide additional information that is related to the request for additional information, but not directly requested by the regulatory authority.
Test Requirements*:* ● Some of the submission content is applicable to all submissions in the bundle. ● Some of the submission content is only applicable to one submission in the bundle. (note - this is the labeling - IFU content)

[RPS] Data elements	RPS Data Attributes	Values
Submission Unit	id@root code@code statusCode@code =active	

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

[RPS] Data elements	RPS Data Attributes	Values
Submission	id@root code@code	App#1= S099 App#2= S078 App#3= S023
Submission Group	id@root	Submission Group
Application	id@root code@code	App#1= P092345 App#2= P085678 App#3= H100123
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	

Submission Contents

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
M1.1 - CoU.code= CH.1.0.1 Cover Letter		Cover Letter	P092345/S099, P085678/S078, H100123/S023
M2.2 - CoU.code= CH.2.1 General Summary of Submission		Summary of Submission Changes	P092345/S099, P085678/S078, H100123/S023
M3.48 - CoU.code=		Sterilization Summary	P092345/S099,

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
CH.3.3.10.2 Manufacturer Sterilization			P085678/S078, H100123/S023
M5.2 - CoU.code= CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		Catheter Family 1 IFU	P092345/S099
M5.2 - CoU.code= CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		Catheter Family 2 IFU	P085678/S078
M5.2 - CoU.code= CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		Pacing Lead IFU	H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

Test Case #4

Test Case #4: The FDA has requested additional information to support the change. There were questions about the test methodology in fatigue testing (H100123/S023), and around acceptability of test failures during electrical testing (P092345/S099, P085678/S078). There are also questions around the sample size used to validate the packaging change, at the method used to validate sterilization. This submission unit provides responses to those questions. • Design change - P092345/S099, P085678/S078 • Design change - H100123/S023 • Packaging change - P092345/S099, P085678/S078, H100123/S023 • Sterilization - P092345/S099, P085678/S078, H100123/S023
Test Case Objective: ● To provide additional content to support the design change for each of the submissions in the bundle. ● To provide additional content to support the packaging and sterilization changes. ● To provide a life cycle change to previously submitted content for all submissions in the bundle.
Test Requirements*:* ● Some of the submission content is applicable to all submissions in the bundle. ● Some of the submission content is only applicable to one submission in the bundle. ● Some of the submission content is applicable to two of the three submissions in the bundle.

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

[RPS] Data elements	RPS Data Attributes	Notes
Submission Unit	id@root code@code statusCode@code =active	
Submission	id@root code@code	App#1= S099 App#2= S078 App#3= S023
Submission Group	id@root	Submission Group
Application	id@root code@code	App#1= P092345 App#2= P085678 App#3= H100123
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

Submission Contents

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
M1.1 - CoU.code= CH.1.0.1 Cover Letter		Cover Letter	P092345/S099, P085678/S078, H100123/S023
M3.9 - CoU.code=CH.3.3.1.1 Summary (test	Study description: Flex Texting, study identifier: TRP2112, date of initiation: Jan. 5, 2013	Fatigue Test Summary	H100123/S023
M3.9 - CoU.code=CH.3.3.1.1 Summary (test	Study description: Impedence Testing, study identifier: TRP300 date of initiation: Nov. 2, 2012	Electrical Test Summary	P092345/S099, P085678/S078
M3.50 - CoU.code= CH.3.3.10.2.1 Summary	Study description: EtO validation study identifier: TRP9001 Date of initiation: Jan. 15, 2013	Sterilization Validation Summary	P092345/S099, P085678/S078, H100123/S023
M3.80 CoU.code=CH.3.6.2.1 Summary	Study description: Drop Test, Study identifier: TRP3555 Date of initiation: Feb. 4, 2013	Packaging Validation Summary	P092345/S099, P085678/S078, H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

Test Case #5

Test Case #5: The FDA has raised questions about the proposed changes to pacing lead family that cannot be adequately addressed. As a result, the sponsor has decided to withdraw the request for changes to H100123/S023. Submission Unit #5 - Withdraw of a Submission from Bundle • All content related at H100123/S023
Test Case Objective: • To provide a complete withdrawal of the Submission H100123/S023 from the bundle.
Test Requirements*:* • An entire submission is removed from the bundle and all of the contents are inactivated to show that the content is no longer relevant to the submission being removed.

[RPS] Data elements	RPS Data Attributes	Notes
Submission Unit	id@root code@code statusCode@code =active	
Submission	id@root code@code	App#1= S099 App#2= S078 App#3= S023
Submission Group	id@root	Submission Group
Application	id@root	App#1= P092345

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

[RPS] Data elements	RPS Data Attributes	Notes
	code@code	App#2= P085678 App#3= H100123
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	

Submission Contents

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
M1.1 - CoU.code= CH.1.0.1 Cover Letter		Cover Letter	H100123/S023
M1.3 - CoU.code= CH.1.1 Application Form statusCode=inactive	FDA Cover Sheet	FDA Application Form	H100123/S023
M1.4 - CoU.code= CH.1.1.2 Listing of Device statusCode=inactive		Listing of Devices	H100123/S023
M1.7 - CoU.code= CH.1.4 User Fees statusCode=inactive		FDA User Fees	H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
M1.8 - CoU.code= CH.1.5 Presubmission Correspondence statusCode=inactive		Pre-submission Correspondence	H100123/S023
M1.9 - CoU.code= CH.1.6 Acceptance for Review Checklist statusCode=inactive		FDA Review Checklist	H100123/S023
M1.15 - CoU.code=CH.1.7.5 Truthful and Accurate Statement statusCode=inactive		Truthful & Accurate Statement	H100123/S023
M1.16 - CoU.code=CH.1.7.6 Class III Summary and Certification statusCode=inactive		Class III Summary & Certification	H100123/S023
M2.2 - CoU.code= CH.2.1 General Summary of Submission statusCode=inactive		Summary of Submission Changes	H100123/S023
M3.7 - CoU.code= CH.3.3.1 Physical and Mechanical statusCode=inactive		Non-Clinical Testing Summary	H100123/S023
M3.9 - CoU.code=CH.3.3.1.1 Summary (test	Study description: Flex Texting,	Fatigue Test Summary	H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
statusCode=inactive	study identifier: TRP2112, date of initiation: Jan. 5, 2013		
M3.10 - CoU.code= CH.3.3.1.2 Full Report statusCode=inactive	Study description: Flex Texting, study identifier: TRP2112, date of initiation: Jan. 5, 2013	Fatigue Test Report	H100123/S023
M3.48 - CoU.code= CH.3.3.10.2 Manufacturer Sterilization statusCode=inactive		Sterilization Summary	H100123/S023
M3.50 - CoU.code= CH.3.3.10.2.1 Summary statusCode=inactive	Study description: EtO validation study identifier: TRP9001 Date of initiation: Jan. 15, 2013	Sterilization Validation Summary	H100123/S023
M3.51 - CoU.code= CH.3.3.10.2.2 Full Report statusCode=inactive	Study description: EtO validation study identifier: TRP9001 Date of initiation: Jan. 15, 2013	Sterilization Validation Report	H100123/S023
M3.73 - CoU.code= CH.3.6 Expiration Period and Package Validation statusCode=inactive		Shelf Life & Storage Overview	H100123/S023
M3.74 - CoU.code=CH.3.6.1		Shelf Life Change	H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
Expiration Period of the Product statusCode=inactive		Summary	
M3.76 - CoU.code=CH.3.6.1.1 Summary statusCode=inactive	Study description: Shelf Life Sterility Study identifier: TRP4554 Date of initiation: June 6, 2012	Shelf Life Test Summary	H100123/S023
M3.77 - CoU.code= CH.3.6.1.2 Full Report statusCode=inactive	Study description: Shelf Life Sterility Study identifier: TRP4554 Date of initiation: June 6, 2012	Shelf Life Test Report	H100123/S023
M3.78 - CoU.code=CH.3.6.2 Package Validation statusCode=inactive		Packaging Validation Summary	H100123/S023
M3.80 CoU.code=CH.3.6.2.1 Summary statusCode=inactive	Study description: Drop Test, Study identifier: TRP3555 Date of initiation: Feb. 4, 2013	Packaging Validation Summary	H100123/S023
M3.81 - CoU.code= CH.3.6.2.2 Full Report statusCode=inactive	Study description: Drop Test, Study identifier: TRP3555 Date of initiation: Feb. 4, 2013	Packaging Validation Report	H100123/S023
M5.2 - CoU.code= CH.5.1		Catheter Family 1	H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
Product/Package Labels, Package Insert/Instructions for Use statusCode=inactive		Package Label	
M5.2 - CoU.code= CH.5.1 Product/Package Labels, Package Insert/Instructions for Use statusCode=inactive		Catheter Family 1 IFU	H100123/S023

Regulated Product Submissions R2 Test Case Scenario IMDRF-001

Software Tools: *[List the vendor, product name and version of the software tool being used to input the changes into the actual message. For example Altova, XML Spy, VS 3.0]*

The following fields will be completed during testing

Test Date:	
Tester's Name:	
Tester's Email:	
Test Case Deviations:	*[Describe any unplanned deviations used to continue testing. For example: The test case description instructed you to attach an "approval letter.pdf" to the message but it was not allowed so you attached an "approval letter.doc" to continue testing]*
Actual Test Results:	*[Document whether the test passed or failed based on the Expected Results. For example: "Passed. Actual Results matched Expected Results" or "Failed. See Discrepancies and Issue Number 123456"]*
Test Result Discrepancies:	*[Document any differences between the Actual Results and the Expected Results. For example: The Expected Results stated the Regulated Industry should receive a correspondence containing submission information but submission information did not display in correspondence.]*
Issue Number:	*[Enter the number provided by the issue-tracking software.]*

Appendix D: Regulated Product Submissions R2 Test Case Scenario IMDRF-002

(Bundled Submissions with changes involving keywords and subsets of the bundle)

Regulated Product Submissions R2 Test Case Scenario IMDRF-002

IMDRF-002: Bundled Submissions with changes involving keywords and subsets of the bundle

Test Case No.:	IMDRF-002
Test Case Title:	Bundled Submissions with changes involving keywords and subsets of the bundle
Test Case Domain:	Medical Devices
IMDRF Requirement Class (global/regional):	Global
IMDRF Requirement or Storyboard No.	2.2.1.2 Adding submission units to an existing submission (PORP_SN000002UV) 2.2.1.3 Creating a new submission to an application (PORP_SN000003UV) 2.2.1.5 One submission unit to multiple applications (PORP_SN000005UV) 2.2.1.6 One submission unit to multiple submissions (PORP_SN000006UV) IMDRF Storyboard 24d 2.2.1.9 Send Submission Unit to Regulatory Authority (PORP_SN000030UV) 2.2.2.1 Adding new files to a submission (PORP_SN000009UV) 2.2.2.2 Replacing a previously submitted file (PORP_SN000010UV)

Test Case Scenario Description:

This test scenario is global, but the example used for testing purposes is Health Canada specific. For this test scenario an Application is a Canadian Device Licence (Lic ######), a submission is a New Medical Device Licence Application (baseline case - no reference numbers available at time of creation) OR Medical Device Licence Amendment Application (Licence ###### available at time of creation), and a Submission Unit (Lic ###### available at time of creation) is an Amendment.

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

Bundled Submissions – a single submission unit that impacts multiple Submissions and associated Applications and products. As an example – a submission that requests approval for a manufacturing change (e.g., sterilization method) and labeling change that impacts multiple products previously approved within multiple Applications.

This test case scenario involves a number of related approvals (baseline) for similar products (3 different dermal filler products) that are branded differently and intended for different uses and therefore have separate approvals. An amendment to the existing approval is then created to request change to the source of the collagen used in the products. Although the amendment is applicable to all 3 approvals, specific changes and keywords are associated with all OR a subset of the approvals.

Initial Submission Unit applies to 3 Licences (Lic# 10001, Lic# 20002, Lic# 30003) and defines changes as noted below. Application numbers are assigned by Health Canada upon receipt of the submission. For each licence to be amended a new application number is generated - upon approval the amendment is issued under the same Licence Number.

The implementation guide (IG) includes two options that are being considered for handling bundles. ***PLEASE USE BOTH OPTIONS (I.E. XML SAMPLES FOR EACH). FEEDBACK BEYOND THE SAMPLES IS WELCOME WITH RESPECT TO THE PROS/CONS TO EACH APPROACH OR SUGGEST AN ALTERNATIVE APPROACH.***

Test Case	BASELINE (Test Case 1)	Test Case 2
Description	Original (New) Licence Application (Initial contents provided to all submissions in the bundle) (Submission Unit #1)	Amendment to all submissions (Submission Unit 2)
Affected Submission/ Application	App# 613111 (Lic# 10001) App# 613212 (Lic# 20002) App# 613313 (Lic# 30003) Note: At the time of initial submission of a	App# 613121 (Lic# 10001) App# 613223 (Lic# 20002) App# 613323 (Lic# 30003) Note: App#s will be assigned by regulator following receipt of the

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

<table>
<tr><th>Test Case</th><th>BASELINE
(Test Case 1)</th><th>Test Case 2</th></tr>
<tr><td></td><td>new product these numbers do not exist, they are provided here to establish context for the lifecycle of the products. App#s are assigned following receipt by the regulator; Lic# are assigned at time of approval.</td><td>submission unit. The Lic# should be available for these submission units as they are amendments to existing approvals.</td></tr>
<tr><td>Changes to Submission Contents[I2]</td><td>N/A</td><td>NEW
<table>
<tr><td>CH.1.0.1 Cover Letter</td><td>Cover Letter #2</td><td>Lic#10001, Lic#20002, Lic#30003</td></tr>
<tr><td>CH.3.3.9 Bio Safety CH3.3.9.1 Summary</td><td>Bovine Abbatoir Certificate #2</td><td>Lic# 30003</td></tr>
<tr><td>CH.3.3.9 Bio Safety CH3.3.9.1 Summary</td><td>Porcine Viral inactivation study #1</td><td>Lic #10001 & 20002</td></tr>
<tr><td>CH.3.3.9 Bio Safety CH3.3.9.1 Summary</td><td>Porcine Abbatoir Certificate #1</td><td>Lic #10001 & 20002</td></tr>
<tr><td>CH.3.3.9 Bio Safety CH3.3.9.1 Summary</td><td>Porcine Risk Assessment #1</td><td>Lic#10001, Lic#20002, Lic#30003</td></tr>
</table></td></tr>
</table>

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

<table>
<tr><th>Test Case</th><th>BASELINE
(Test Case 1)</th><th colspan="3">Test Case 2</th></tr>
<tr><td></td><td></td><td colspan="3">REVISED
<table>
<tr><td>CH.2.3.1 Comprehensive Device Description & Principle of Operation</td><td>Device Description & Principles v2</td><td>Lic#10001, Lic#20002, Lic#30003</td></tr>
<tr><td>CH.5.1 Product/Package Labels, Package Insert/Instructions for Use</td><td>IFU10001v2</td><td>Lic #10001</td></tr>
<tr><td>CH.5.1 Product/Package Labels, Package Insert/Instructions for Use</td><td>IFU20002v2</td><td>Lic #20002</td></tr>
</table></td></tr>
</table>

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

Test Case 1

ABC Devices holds 3 existing licences for three different dermal fillers marketed under different names and intended for use in different injection locations (i.e. Lic#10001 – Lips; Lic#20002 crowlines; Lic#30003 cheeks). The three versions all contain collagen of animal source. The difference between the products lies in the packaging (different syringes), the clinical evidence (for different locations of injection) and labelling (different IFUs and tradenames).

The original licences were issued for Bovine sourced collagen from an abbatoir within the Brazil.

The initial content would be a complete set of content as required for the submission type. For the purposes of this testing we are only listing the initial contents as those relevant to the test case scenario. Specifically,

NOTE: The File numbers following the application numbers are assigned by regulator upon receipt of the submission.

Test Case Objective:

- To make changes to submission contents (placement in CoU-Keyword pairs) that affects more than one submission in the bundle.

Test Requirements:

- To ensure that the submission content is correctly attributed to the submission over the complete regulatory activity.

[RPS] Data elements	RPS Data Attributes	Notes
Application	application.id.item@root application.id.item@extension	Lic# 10001 Lic# 20002 Lic# 30003
Application Reference	applicationReference.id@root applicationReference.id@extension	N/A

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

[RPS] Data elements	RPS Data Attributes	Notes
Submission	id.item@root id.item@extension submission.code@code submission.code@codeSystem	App# 613121 (Lic #10001) App# 613223 (Lic #20002) App# 613323 (Lic #30003) Note: the Submission number has not yet been assigned when this submission is made.
Submission Group	id@root	When testing use this to group Submissions across Submission Units. See implementation guide.
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	Applicant Name & Address

Submission Contents

Note: In the Document Title column, the notation "#(X)" (e.g. #1) equates to a new document and "v(X)" (e.g. v1) would be a new version of a document.

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
CH.1.0.1 Cover Letter		Cover Letter #1	Lic#10001, Lic#20002, Lic#30003
CH.2.3.1 Comprehensive Device Description & Principle of Operation		Device Description & Principles v1	Lic#10001, Lic#20002, Lic#30003

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
CH3.3.9.1 Summary	Country:"Brazil"; Source:"Bovine"; Study description: "Viral inactivation", study identifier: "VIBOV001v1", date of initiation: "Dec 2011"	Bovine Viral inactivation study v1	Lic#10001, Lic#20002, Lic#30003
CH3.3.9.1 Summary	Country:"Brazil"; Source:"Bovine"; Study description: "Abbatoir Certificate", study identifier: "BOVABB001", date of initiation: "Jan 2012"	Bovine Abbatoir Certificate #1	Lic#10001, Lic#20002, Lic#30003
CH3.3.9.1 Summary	Country:"Brazil"; Source:"Bovine"; Study description: "Biological Mat. Risk Assessment", study identifier: "BMRSBOV001v1", date of initiation: "Jun 2010"	Bovine Risk Assessment v1	Lic#10001, Lic#20002, Lic#30003
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		IFU10001v1	Lic#10001
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		IFU20002v1	Lic#20002
CH.5.1 Product/Package		IFU30003v1	Lic#30003

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
Labels, Package Insert/Instructions for Use			

Test Case #2

ABC Devices then decides that they would like to use collagen of a porcine source from an abbatoir located in Brazil for their lower volume products (i.e. Lic#10001 & #20002). In support of this application they provide a new accompanying cover letter, a revised Comprehensive Device Description, and Biological Safety information (i.e. A new viral inactivation study, a new Certificate of Abbatoir Inspection, and a revised biological material risk assessment). They are also adding a new abattoir for the Bovine source under Lic #30003. They also revise the package insert for the licences (i.e. Lic#10001 & #20002) to warn against use in patients with known allergy to materials of porcine origin.
Test Case Objective: Make a change to submission content to support the following actions: ● To provide revised content to support the collagen source change for Lic# 10001 & 20002 ● To provide additional content to support the additional collagen source for Lic# 30003
Test Requirements: A submission unit can add a new context of use, associated keywords, and document to one or more submissions in the bundle A submission unit can version existing context of use, associated keywords, and version documents for some of the applications in the bundle. ● New submission contents can apply to all OR only a subset of submissions in the bundle.

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

[RPS] Data elements	RPS Data Attributes	Notes
Application	application.id.item@root application.id.item@extension	Lic#10001 Lic#20002 Lic#30003
Submission	id.item@root id.item@extension submission.code@code submission.code@codeSystem	App# 613121 (Lic #10001) App# 613223 (Lic #20002) App# 613323 (Lic #30003)
Submission Group	id@root	When testing use this to group Submissions across Submission Units. See implementation guide.
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	Applicant Name & Address

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

Submission Contents

Note: In the Document Title column, the notation "#(X)" (e.g. #1) equates to a new document and "v(X)" (e.g. v1) would be a new version of a document.

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
CH.1.0.1 Cover Letter		Cover Letter #2	Lic#10001, Lic#20002, Lic#30003
CH.2.3.1 Comprehensive Device Description & Principle of Operation		Device Description & Principles v2	Lic#10001, Lic#20002, Lic#30003
CH3.3.9.1 Summary	Country:"Brazil"; Source:"Bovine"; Study description: "Abbatoir Certificate", study identifier: "BOVABB002", date of initiation: "Feb 2012"	Bovine Abbatoir Certificate #2	Lic# 30003
CH3.3.9.1 Summary	Country: "Brazil"; Source: "Porcine"; Study description: "Viral Inactivation", study identifier: "VIPOC001", date of initiation: "Jan 2012"	Porcine Viral inactivation study #1	Lic #10001 & 20002
CH3.3.9.1 Summary	Country: "Brazil"; Source: "Porcine"; Study description: "Abbatoir Certificate", study identifier: "POCABB001", date of initiation: "December 2011"	Porcine Abbatoir Certificate #1	Lic #10001 & 20002

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

CoU	Keywords	Document Title	Applicable to the following Submissions/Applications
CH3.3.9.1 Summary	Country: “Brazil”; Source: “Porcine”; Study description: “Biological Mat. Risk Assessment”, study identifier: “BMRSPOC001”, date of initiation: “December 2011”	Porcine Risk Assessment #1	Lic#10001, Lic#20002, Lic#30003
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		IFU10001v2	Lic #10001
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use		IFU20002v2	Lic #20002

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Regulated Product Submissions R2 Test Case Scenario IMDRF-002

Software Tools: *[List the vendor, product name and version of the software tool being used to input the changes into the actual message. For example Altova, XML Spy, VS 3.0]*

The following fields will be completed during testing

Test Date:	
Tester's Name:	
Tester's Email:	
Test Case Deviations:	*[Describe any unplanned deviations used to continue testing. For example: The test case description instructed you to attach an "approval letter.pdf" to the message but it was not allowed so you attached an "approval letter.doc" to continue testing]*
Actual Test Results:	*[Document whether the test passed or failed based on the Expected Results. For example: "Passed. Actual Results matched Expected Results" or "Failed. See Discrepancies and Issue Number 123456"]*
Test Result Discrepancies:	*[Document any differences between the Actual Results and the Expected Results. For example: The Expected Results stated the Regulated Industry should receive a correspondence containing submission information but submission information did not display in correspondence.]*
Issue Number:	*[Enter the number provided by the issue-tracking software.]*

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Appendix E: Regulated Product Submissions R2 Test Case Scenario IMDRF-003

(Application for many products – Australia Conformity Assessment)

IMDRF-003: Application for many products - Australia Conformity Assessment

Test Case No.:	IMDRF-003
Test Case Title:	Application for many products - Australia Conformity Assessment
Test Case Domain:	Devices
IMDRF Requirement Class (global/regional):	Global
IMDRF Requirement or Storyboard No.	IMDRF Storyboard 20 Modify Information about a Submission (PORP_SN000034UV) (for example Submission Number)

Test Case Scenario Description:

Submission Unit 1

- The Applicant has lodged a Conformity Assessment Application through TGA's on-line system, and received an Application number. The TGA has now requested that they provide required documentation to support the Application. The Applicant sends this initial submission unit with documentation to support their Application. The Applicant is seeking approval for 5 high risk devices (device A, device B, device C, device D, device E.

Submission Unit 2

- The manufacturer did not provide a full mechanical test report in their initial submission unit. The TGA requests that they submit one. At this point the TGA has also assigned a Submission Number which must be referenced in the response.

Submission Unit 3

- TGA has asked additional questions that require the sponsor to send a submission unit with the following updates: a revised risk management report for Devices D and E; and a revised clinical report. TGA also does not feel the biocompatibility report submitted adequately shows safety for all 5 devices. As a result, the applicant removes Device E from the keywords for the previously submitted COU, and provides a new Biocompatiblity test report that applies only to Device E.

Submission Unit 4

- TGA has asked additional questions related to the biocompatibility of Device E. The Applicant cannot address the questions at this time and requests that Device E be withdrawn from the Application.

Test Case	Test Case 1	Test Case 2	Test Case 3	Test Case 4
Description	Initial Conformity Assessment Evidence Application	Add additional COUs, update submission metadata	Revise previously submitted COUs to add product keywords and revised files	Withdraw a product and related files from the submission
Changes to Submission Contents & Metadata	N/A	Add a new Submission number New COU & Document CH.3.3.1.2 Full Report	Revise CH.3.1 Risk Management; and CH.4.1.1.2 Clinical Trial Report Remove Device E from keywords of CH.3.3.6.2 Full Report Remove Device E from keywords of CH.3.3.6.1 Summary. Lifecycle content with updated file. Add new COUs CH.3.3.6.2 Full Report and CH.3.3.6.1 Summary that apply only to Device E	Remove Device E from all keywords. Inactivate CH.5.1 Product/Package Labels, Package Insert/Instructions for Use for Device E only Inactivate CH.3.3.6.2 Full Report and CH.3.3.6.1 Summary that applies only to Device E

Test Case #1

Test Case #1: The Applicant has lodged a Conformity Assessment Application through TGA's on-line system, and received an Application number. The TGA has now requested that they provide required documentation to support the Application. The Applicant sends this initial submission unit with documentation to support their application. The applicant is seeking approval for 5 high risk devices (device A, device B, device C, device D, device E.
Test Case Objective: • Submit a new Application that covers multiple products. Not all documents apply equally to all products.
Test Requirements*:* ● An Applicant can submit a new Application without a Submission number. ● The message contains the date the Application was sent ● The message can identify both the Applicant and the Manufacturer as distinct parties ● The message identifies an applicant with name, address and client ID # ● The relationship of the new application to the previous Application number can be tracked in the RPS message

Data elements	[RPS] Data elements	Sample Value
Submission Date		July 1, 2013
Submission	id@root code@code	
Application	id@root code@code	DV-2013-CA-12345-9
Related Applications	Application Reference	DV-2013-CA-22334-9
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	Applicant N 1234 Pleasant Way Sydney, Australia Client ID 822
Manufacturer	applicant.sponsoringOrganizatio	Device Inc.

Data elements	[RPS] Data elements	Sample Value
	n.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	2255 West Place Cleveland, OH, USA

Submission Contents

CoU	Keywords	Document Title	Comments
CH.1.0.1 Cover Letter		Cover Letter	
CH.1.1 Application Form/Administrative Information		Application Form	
CH.1.2 Quality Management System, Full Quality System or Product Certification Certificate	**Certification Number:** AU Q78432 **Certificate Version**: 2	QMS Certificate	
CH.1.5 Pre-Submission Correspondence and Previous Regulator Interactions		Application Lodgement Record	
CH.1.8 Declaration of Conformity		Declaration of Conformity	
CH.2.1 General Summary of Submission		Submission Summary	
CH.2.3.1 Comprehensive Device Description & Principle of Operation		Device Description	

CoU	Keywords	Document Title	Comments
CH.2.3.2 Description of Packaging		Packaging Description	
CH.2.3.3 History of Development		Product History	
CH.2.4 Reference and Comparison to Similar and/or Previous Generations of the Device		Previous Product Generations	
CH.2.4.1.1 Intended Use / Intended Purpose / Intended User		Intended Use	
CH.2.4.1.2 Intended Environment for use		Environment for Use	
CH.2.4.1.3 Indications for Use		Indications for Use	
CH.2.4.1.5 Contraindications For Use		Contraindications for Use	
CH.2.5 Essential Principles (EP) Checklist		Essential Principles	
CH.2.6.1 Global Market History		Marketing History	
CH.2.6.2 Global Incident Reports and Recalls		Recalls and Adverse Events	
CH.2.6.3 Incident Rate of Incident Reports and Recalls		Recall Incident Rate	
CH.3.1 Risk Management	**Products:** Device A, Device B, Device C	FMEA Analysis	

CoU	Keywords	Document Title	Comments
CH.3.1 Risk Management	**Products**: Device D, Device E	FMEA Analysis	
CH.3.3.1.1 Summary		Mechanical Testing Summary	
CH.3.3.3.1 Summary	**Products**: Device A, Device B, Device C	Electrical Testing Summary	
CH.3.3.3.2 Full Report	**Products:** Device A, Device B, Device C	Electrical Testing Report	
CH.3.3.3.1 Summary	**Products:** Device D, Device E	Electrical Testing Summary	
CH.3.3.3.2 Full Report	**Products**: Device D, Device E	Electrical Testing Report	
CH.3.3.6.1 Summary	**Products:** Device A, Device B, Device C, Device D, Device E	Biocompatibility Summary	
CH.3.3.6.2 Full Report	**Products:** Device A, Device B, Device C, Device D, Device E	Biocompatibility Report	
CH.3.6 Expiration Period and Package Validation	**Products:** Device A, Device B, Device C, Device D, Device E	Package Validation	
CH.3.6.1 Expiration Period of the Product	**Products:** Device A, Device B, Device C, Device D, Device E	Expiration Period	
CH.4.1 Overall Clinical Evidence Summary	**Products:** Device A, Device B, Device C, Device D, Device E	Clinical Summary	
CH.4.1.1.1 Clinical Trial Synopsis	**Products:** Device A, Device B, Device C, Device D, Device E	Clinical Trial Synopsis	

CoU	Keywords	Document Title	Comments
CH.4.1.1.2 Clinical Trial Report	**Products:** Device A, Device B, Device C, Device D, Device E	Clinical Report	
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use	**Products:** Device A	Package Label	
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use	**Products:** Device B	Package Label	
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use	**Products:** Device C	Package Label	
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use	**Products**: Device D	Package Label	
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use	**Products**: Device E	Package Label	
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use	**Products:** Device A, Device B, Device C, Device D, Device E	Instructions for Use	

Test Case #2

Test Case #2: The manufacturer did not provide a full mechanical test report in their initial submission unit. The TGA requests that they submit one. At this point the TGA has also assigned a Submission Number which must be referenced in the response.
Test Case Objective: •Submit a new mechanical test report that applies equally to all products. Update submission number.
Test Requirements*:* ● An Applicant can add Application and/or Submission numbers to an existing Application ● Applicant can add a new COU, document and file

Data elements	[RPS] Data elements	Sample Value
Submission	id@root code@code	DC-2013-12345-6
Application	id@root code@code	DV-2013-CA-12345-9
Related Applications		DV-2013-CA-22334-9
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	Applicant N 1234 Pleasant Way Sydney, Australia Client ID 822

Data elements	[RPS] Data elements	Sample Value
Manufacturer	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	Device Inc. 2255 West Place Cleveland, OH, USA

Submission Contents

CoU	Keywords	Document Title	Lifecycle Comments
CH.3.3.1.2 Full Report	**Products:** Device A, Device B, Device C, Device D, Device E	Mechanical Testing Report	new COU

Test Case #3

Test Case #3: TGA has asked additional questions that require the sponsor to send a submission unit with the following updates: a revised risk management report for Devices D and E; and a revised clinical report. TGA also does not feel the biocompatibility report submitted adequately shows safety for all 5 devices. As a result, the applicant removes Device E from the keywords for the previously submitted COU, and provides a new Biocompatiblity test report that applies only to Device E.
Test Case Objective: Respond to TGA questions with revised documents, new documents that do not apply to all products, and indicate some documents are no longer applicable to some products.
Test Requirements*:* ● The same document can be submitted with a new COU to track removal of a keyword. ● A COU with multiple device keywords can be revised to reflect a revision to the submitted file

Data elements	[RPS] Data elements	Sample Value
Submission	id@root code@code	DC-2013-12345-6
Application	id@root code@code	DV-2013-CA-12345-9
Related Application		DV-2013-CA-22334-9
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	Applicant N 1234 Pleasant Way Sydney, Australia Client ID 822
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom	Use for Manufacturer: Device Inc. 2255 West Place Cleveland, OH, USA

Data elements	[RPS] Data elements	Sample Value
	applicant.sponsoringOrganization.addr	

Submission Contents

COU	Keywords	Document Title	Lifecycle Comments
CH.3.1 Risk Management	**Products:** Device D Device E	Risk Management Report	Revised COU
CH.4.1.1.2 Clinical Trial Report		Clinical Report	Revised COU
CH.3.3.6.1 Summary	**Products:** Device A, Device B, Device C, Device D	Biocompatibility Summary	Submit new biocompatibility summary document to reflect removal of Device E. Remove Device E from the keywords (creating a new COU)
CH.3.3.6.2 Full Report	**Products:** Device A, Device B, Device C, Device D	Biocompatibility Report	Remove Device E from the keywords, and as a result create a new COU. The submitted file still applies
CH.3.3.6.1 Summary	**Products:** Device E	Biocompatibility Summary Device E	New COU with a new document to cover Device E
CH.3.3.6.2 Full Report	**Products:** Device E	Biocompatibility Report Device E	New COU with new document to cover Eevice E

Test Case #4

Test Case #4: TGA has asked additional questions related to the biocompatibility of Device E. The Applicant cannot address the questions at this time and requests that Device E be withdrawn from the Application.
Test Case Objective: Withdraw a single product from the Application and appropriately update all COUs and keywords
Test Requirements*:* ● A product can be removed from keywords for an existing COU within modifying the submitted information ● A COU can be inactivated

Data elements	[RPS] Data elements	Sample Value
Submission	id@root code@code	DC-2013-12345-6
Application	id@root code@code	DV-2013-CA-12345-9
Related Applications		DV-2013-CA-22334-9
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	Applicant N 1234 Pleasant Way Sydney, Australia Client ID 822
Applicant	applicant.sponsoringOrganization.id applicant.sponsoringOrganization.name applicant.sponsoringOrganization.telecom applicant.sponsoringOrganization.addr	Use for Manufacturer: Device Inc. 2255 West Place Cleveland, OH, USA

Submission Contents

CoU	Keywords	Document Title	Comments
CH.1.0.1 Cover Letter		Cover Letter	
CH.3.1 Risk Management	**Products**: Device D	FMEA Analysis	New COU to remove Device E from keywords. Document stays the same.
CH.3.3.3.1 Summary	**Products:** Device D	Electrical Testing Summary	New COU to remove Device E from keywords. Document stays the same.
CH.3.3.3.2 Full Report	**Products**: Device D	Electrical Testing Report	New COU to remove Device E from keywords. Document stays the same.
CH.3.3.6.1 Summary	**Products:** Device E	Biocompatibility Summary Device E	Inactivate COU
CH.3.3.6.2 Full Report	**Products:** Device E	Biocompatibility Report Device E	Inactivate COU
CH.3.6 Expiration Period and Package Validation	**Products:** Device A, Device B, Device C, Device D	Package Validation	New COU to remove Device E from keywords. Document stays the same.
CH.3.6.1 Expiration Period of the Product	**Products:** Device A, Device B, Device C, Device D	Expiration Period	New COU to remove Device E from keywords. Document stays the same.
CH.4.1 Overall Clinical Evidence Summary	**Products:** Device A, Device B, Device C, Device D	Clinical Summary	New COU to remove Device E from keywords. Document stays the same.
CH.4.1.1.1 Clinical Trial Synopsis	**Products:** Device A, Device B, Device C, Device D	Clinical Trial Synopsis	New COU to remove Device E from keywords. Document stays the same.

CoU	Keywords	Document Title	Comments
CH.4.1.1.2 Clinical Trial Report	**Products:** Device A, Device B, Device C, Device D	Clinical Report	New COU to remove Device E from keywords. Document stays the same.
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use	**Products**: Device E	Package Label	Inactivate COU
CH.5.1 Product/Package Labels, Package Insert/Instructions for Use	**Products:** Device A, Device B, Device C, Device D	Instructions for Use	New COU to remove Device E. Revised user manual

Software Tools: *[List the vendor, product name and version of the software tool being used to input the changes into the actual message. For example Altova, XML Spy, VS 3.0]*

The following fields will be completed during testing

Test Date:	
Tester's Name:	
Tester's Email:	
Test Case Deviations:	*[Describe any unplanned deviations used to continue testing. For example: The test case description instructed you to attach an "approval letter.pdf" to the message but it was not allowed so you attached an "approval letter.doc" to continue testing]*
Actual Test Results:	*[Document whether the test passed or failed based on the Expected Results. For example: "Passed. Actual Results matched Expected Results" or "Failed. See Discrepancies and Issue Number 123456"]*
Test Result Discrepancies:	*[Document any differences between the Actual Results and the Expected Results. For example: The Expected Results stated the Regulated Industry should receive a correspondence containing submission information but submission information did not display in correspondence.]*

Issue Number:	*[Enter the number provided by the issue-tracking software.]*

Appendix F: Regulated Product Submissions R2 Test Case Scenario IMDRF-005

(Modular Submission)

Test Case No.:	IMDRF-005
Test Case Title:	Modular Submission
Test Case Domain:	US
IMDRF Requirement Class (global/regional):	Regional
IMDRF Requirement or Storyboard No.	TBD

Narrative of TCS:
Company A, manufactures two different chemically crosslinked injectable animal tissue wrinkle-fillers. One product treats very deep wrinkles (Deep-Fill) and one product treats superficial wrinkles (Super-Fill).

While clinical studies were ongoing, the sponsor held informal discussions with FDA concerning the submission of a Modular PMA application for the two devices. Once an informal agreement was reached with FDA concerning the contents of the future Modular PMA, Company A submits a finalized PMA Shell to FDA (**Module 0**).

Company A submits **PMA Module 1** which describes product manufacture (QMS Procedures) and manufacturing facility controls (QS Regulation Compliance) for the two wrinkle filler devices.

After review of Module 1 contents, the FDA determined that **Module 1** is incomplete and sends a deficiency letter to Company A requesting additional information. As a result, Company A submits a response to the FDA deficiency letter in a PMA Module Amendment to **Module 1**. This response includes the missing manufacturing information found during the review of previously submitted module. After review of the Amendment, the FDA found **Module 1** to be sufficient and closed the module.

Company A submits **Module 2** which describes new information on the non-clinical studies with the two wrinkle filler products.

Company A notifies FDA that they have changed the source of animal tissue for their wrinkle filler device, Deep-Fill only. This information is submitted in a PMA Module Supplement, because this new manufacturing information is submitted to the previously closed (i.e., accepted) **Module 1**.

The sponsor also submits an **Amendment to the PMA Shell** which describes the new manufacturing information and revised timetable for updating **Module 1.**

Company A submits the final PMA Module (i.e., **Module 3**) that contains all relevant clinical data and labeling information to support the full submission of the PMA and updates to non-clinical data in previously provided in **Module 2** – to include Comparability Data (i.e., chemical and mechanical testing) for the source change of their wrinkle filler, Deep-Fill.
Because this completes the Modular PMA submission, FDA considers the Modular PMA closed and assigns a new PMA number to the complete PMA Modular submission – i.e., all content submitted from this point forward supports the Original PMA.

Definitions from the FDA Guidance

- Modular PMA is a compilation of sections or "modules" submitted at different times that together become a complete PMA application.
- PMA Shell is an outline and description of the contents of all the modules that will comprise the PMA.
- PMA Module is a discrete section of the PMA that can be submitted and reviewed independently. A module is a set of elements, tests, information, etc., that addresses a selected aspect of the device application, such as manufacturing or animal testing.
- PMA Module Amendment is information an applicant submits to FDA to modify a pending module.
- PMA Module Supplement is information submitted to a closed module for FDA review of a change or modification to the information provided in the original module.
- Final PMA Module – contains the final clinical data, proposed labeling, and summary of safety and effectiveness), plus the incorporation by reference of previously submitted modules, will complete the modular PMA.

Test Case Scenario Description:

Test Case	Test Case	Test Case #2	Test Case #3	Test Case #4	Test Case

	#1				#5
Description	PMA Shell provides the outline of the modular PMA	Module 1 with initial content including manufacturing information for the device products.	· Module 2 with new content including non-clinical information. · In addition, a response to request of additional information to Module 1 is submitted	· Module 1 is reopened with a change to one of the source materials, including manufacturing information for the change. · Revision to the PMA Shell that indicates the change to manufacturing information as well as revised timetable for Module 1 content.	Final Module with initial content including the clinical data and labeling information, as well as updated non-clinical information for the application for premarket approval.
Method #1: Individual Submission units	Submissio n Unit #1	Submission Unit #2	Submission Unit #3 Submission Unit #4	Submission Unit #5 Submission Unit #6	Submission Unit #7
Method #2:	Submissio	Submission	Submission	Submission Unit	Submission

Reviewable Units	n Unit #1	Unit #2	Unit #3 (2 reviewable units)	#4 (2 reviewable units)	Unit #5
Summary of Change			Changes to CH.6.A and CH.6.B	Changes to CH.6.A and CH.6.B	Changed to CH.3.2 and CH.3.3

Test Case #1

Test Case #1: (December 2013)

Company A, manufactures two different chemically crosslinked injectable animal tissue wrinkle-fillers. One product treats very deep wrinkles (Deep-Fill) and one product treats superficial wrinkles (Super-Fill).

While clinical studies were ongoing, the sponsor held informal discussions with FDA concerning the submission of a Modular PMA application for the two devices. Once an informal agreement was reached with FDA concerning the contents of the future Modular PMA, Company A submits a finalized PMA Shell to FDA (**Module 0**).

Test Case Objective:

- Submit initial content, PMA Shell, for a Modular PMA which may be modified at a later date if there are changes to the planned submission of each module in the modular PMA.
- Test two methods of submitting modular submissions:
  - Use of Reviewable Units
  - Use of CV to submit individual Submissions for each Module.

Test Requirements*:*

The message shall submit initial content for a Modular PMA, the PMA Shell.

Module 0 – Finalized PMA Shell

[RPS] Data Elements	Code	Identifier
Application	Modular PMA	M130099
Submission	Shell	M0
Submission Unit	Module 0 - Shell	

Submission Contents

CoU	Keywords	Document Title	Application/Submission
CH.1.0.1 Cover Letter		Cover Letter with Shell Outline (Filename: file1.pdf)	M130099/M0
CH.1.1 Application Form	FDA Cover Sheet	FDA Application Form (Filename: file2.pdf)	M130099/M0

Test Case #2

Test Case #2: (March 2014)

Company A submits **PMA Module 1** which describes product manufacture (QMS Procedures) and manufacturing facility controls (QS Regulation Compliance) for the two wrinkle filler devices.

The submission contents have the following special considerations:

- The manufacturing submission content for Deep-Fill and Super-Fill supports manufacturing at one manufacturing site Wrinkle NY.
- The actual source animal tissue is different in each of the products, Deep-Fill is composed of Source C and Super-Fil is composed of Source D. Consequently, the supporting submission content for the source material is provided by two different Master Files (MAF-080012 and MAF-090010).

Test Case Objective:

- Submission of one component of the modular PMA submission
- Test two methods of submitting modular submissions:
  - Use of Reviewable Units
  - Use of CV to submit individual Submissions for each Module.

Test Requirements*:*

The message shall indicate the manufacturing site, product and source as appropriate for the submission contents.
The message shall provide a reference to a master file for each of the source materials.

Module 1 – Original Submission Contents

[RPS] Data Elements	Code	Identifier
Application	Modular PMA	M130099
Submission	Original	M1
Submission Unit	Module 1 - Original	

CoU	Keywords	Document Title	Application/Submission
CH.1.0.1 Cover Letter		Cover Letter (Filename: file3.pdf)	M130099/M1
CH.1.1 Application Form	FDA Cover Sheet	FDA Application Form (Filename: file4.pdf)	M130099/M1
CH.2.1 - General Summary of Submission		Executive Summary Module 1 (Filename: file5.pdf)	M130099/M1
CH.2.3.1 Device Description and Principles of Operation		Device Description (Filename: file6.pdf)	M130099/M1
CH.6A.1.2 - General Manufacturing Information		Manufacturing Information (Filename: file7.pdf)	M130099/M1

CH.6.A.2 - Quality management system procedures		QMS Procedures (Filename: file8.pdf)	M130099/M1
CH.6B.2 - Quality management system information		QMS Information (Filename: file9.pdf)	M130099/M1
CH.6.B.5.1 - Design and development information	Wrinkle NY (Manufacturing Site) Deep-Fill (Device) Tissue C (Source)	Design and Development (Filename: file10.pdf)	M130099/M1
CH.6.B.5.1 - Design and development information	Wrinkle NY (Manufacturing Site) Super-Fill (Device) Tissue D (Source)	Design and Development (Filename: file10.pdf)	M130099/M1
CH.6.B.5.2 - Purchasing information	Wrinkle NY (Manufacturing Site) Deep-Fill (Device) Tissue C (Source)	Purchasing Information (Filename: file11.pdf)	M130099/M1
CH.6.B.5.2 - Purchasing information	Wrinkle NY (Manufacturing Site) Super-Fill (Device) Tissue D (Source)	Purchasing Information (Filename: file11.pdf)	M130099/M1
CH.6.B.5.3 - Production and service controls information	Wrinkle NY (Manufacturing Site) Deep-Fill (Device)	Production and Service Controls (Filename: file12.pdf)	M130099/M1

	Tissue C (Source)		
CH.6.B.5.3 - Production and service controls information	Wrinkle NY (Manufacturing Site) Super-Fill (Device) Tissue D (Source)	Production and Service Controls (Filename: file12.pdf)	M130099/M1

Test Case #3

Test Case #3: (September 2014)

Company A submits **Module 2** which describes new information on the non-clinical studies with the two wrinkle filler products.

After review or Module 1 contents, the FDA determined that **Module 1** is incomplete and sends a deficiency letter to Company A req additional information. As a result, Company A submits a response to the FDA deficiency letter in a PMA Module Amendment to **M 1**. This response includes the missing manufacturing information found during the review of previously submitted module.

Test Case Objective:

- To submit new module content along with change to existing module.
- Test two methods of submitting modular submissions:
  - Use of Reviewable Units
  - Use of CV to submit individual Submissions for each Module.

Test Case Requirements:

- The message shall indicate the manufacturing site, product and source as appropriate for the submission contents.

Module 1 Amendment - Update to Manufacturing information

[RPS] Data Elements	Code	Identifier
Application	Modular PMA	M130099
Submission	Original	M1
Submission Unit	Module 1 - Amendment	

Submission Contents

CoU	Keywords	Document Title	Application/Submission
CH.1.0.1 Cover Letter		Cover Letter (Filename: file13.pdf)	M130099/M1
CH.1.1 Application Form	FDA Cover Sheet	FDA Application Form	M130099/M1

		(Filename: file14.pdf)	
CH.2.1 - General Summary of Submission		Executive Summary Module 1 Rev 1 (Filename: file15.pdf)	M130099/M1
CH.2.3.1 - Device Description and Principles of Operation		Device Description Revision 1 (Filename: file16.pdf)	M130099/M1
CH.6.A.1.1 - Product Descriptive Information		Product Description (Filename: file17.pdf)	M130099/M1
CH.6.A.2 - Quality management system procedures		QMS Procedures Revision 1 (Filename: file18.pdf)	M130099/M1
CH.6.B.5.1 - Design and development information	Wrinkle NY (Manufacturing Site) Deep-Fill (Device) Tissue C (Source)	Design and Development Revision 1 (Filename: file19.pdf)	M130099/M1
CH.6.B.5.1 - Design and development information	Wrinkle NY (Manufacturing Site) Super-Fill (Device) Tissue D (Source)	Design and Development Revision 1 (Filename: file19.pdf)	M130099/M1

Module 2 – Original Submission Contents

[RPS] Data Elements	Code	Identifier
Application	Modular PMA	M130099

Submission	Original	M2
Submission Unit	Module 2 – Original	

submission Contents

CoU	Keywords	Document Title	Applications/Submission
CH.1.0.1 Cover Letter		Cover Letter (Filename: file20.pdf)	M130099/M2
CH.1.1 Application Form	FDA Cover Sheet	FDA Application Form (Filename: file21.pdf)	M130099/M2
CH.2.1 - General Summary of Submission		Executive Summary Module 2 (Filename: file22.pdf)	M130099/M2
CH.3.2.2 - Declaration and/or Certification of Conformity		Standards Certification of Conformity (Filename: file23.pdf)	M130099/M2
CH.3.3.2.2 – Full Report (Chemical Characterization)	GLP, Safety, Performance, In Vitro Study C-101 2011-01-01]	Chemical Characterization Full Report (Filename: file24.pdf)	M130099/M2
CH.3.3.1.1 – Full Report (Physical and Mechanical Characterization)	GLP, Safety, Performance, In Vitro Study M-100 2011-01-01]	Mechanical Full Report (Filename: file25.pdf)	M130099/M2

CH.3.3.6.2 – Full Report - Biocompatibility/Toxicity Testing	Safety, In Vivo Study B-101 2011-01-01	Biocompatibility Full Report (Filename: file26.pdf)	M130099/M2
CH.3.3.11.1 – Summary (Animal Testing)	Safety, Performance, In Vivo Study A-101 2011-01-01	Animal Testing Summary (Filename: flie27.pdf)	M130099/M2

Test Case #4

Test Case #4: (February 2015)

Company A notifies FDA that they have changed the source of animal tissue for their wrinkle filler device, Deep-Fill only. This infor submitted in a PMA Module Supplement, because this new manufacturing information is submitted to the previously closed (i.e., acce **Module 1**.

The submission contents have the following special considerations:

- The actual source animal tissue provided for Deep-Fill was originally covered by Master File, MAF-080012. With the change in source animal tissue, a different Master File needs to be referenced, MAF-090021.
- The submission contents for the manufacturing information only applies to Deep-Fill and therefore the content should only be updated for this product that is manufactured at the same manufacturing site, Wrinkle NY.

The sponsor also submits an **Amendment to the PMA Shell** which describes the new manufacturing information and revised timetab updating **Module 1.**

Test Case Objective: - Submitting content to a module that was previously closed.
Test Requirements*:* - The message shall allow a closed module to be reopened and update submission content. - The message shall allow a change to the modular content in the form of an update to the PMA Shell. - The message shall indicate the module for which the submission unit is being submitted. - The message shall indicate the addition of an application reference. - The message shall indicate the removal of an application reference.

Module 1 Supplement – Change to source material

[RPS] Data Elements	Code	Identifier
Application	Modular PMA	M130099
Submission	Original	M1
Submission Unit	Module 1 - Supplement	

Submission Contents

CoU	Keywords	Document Title	Application/Submission
CH.1.0.1 Cover Letter		Cover Letter	M130099/M1

		(Filename: file28.pdf)	
CH.1.1 Application Form	FDA Cover Sheet	FDA Application Form (Filename: file29.pdf)	M130099/M1
CH.2.1 - General Summary of Submission		Executive Summary Module 1 Revision 2 (Filename: file30.pdf)	M130099/M1
CH.2.3.1 - Device Description and Principles of Operation		Device Description Revision 2 (Filename: file31.pdf)	M130099/M1
CH.6A.1.1 - Product Descriptive Information		Product Description Revision 1 (Filename: file32.pdf)	M130099/M1
CH.6.A.2 - Quality management system procedures		QMS Procedures Revision 2 (Filename: file33.pdf)	M130099/M1
CH.6.B.1 - Quality management system information		QMS Information Revision (Filename: file34.pdf)	M130099/M1
CH.6.B.5.3 - Production and service controls information	Wrinkle NY (Manufacturing Site) Deep-Fill (Device) Tissue C2 (Source)	Production controls (Filename: file35.pdf)	M130099/M1

Module 0 Amendment – Update to PMA Shell

[RPS] Data Elements	Code	Identifier

Application	Modular PMA	M130099
Submission	Original	M0
Submission Unit	Module 0 – Shell Revision	

Submission Contents

CoU	Keywords	Document Title	Application/Submission
CH.1.0.1 Cover Letter		Cover Letter – PMA Shell Revision (Filename: file36.pdf)	M130099/M0
CH.1.1 Application Form	FDA Cover Sheet	FDA Application Form (Filename: file37.pdf)	M130099/M0

Test Case #5

Test Case #5: (March 2015)

Company A submits the final PMA Module (i.e., **Module 3**) that contains all relevant clinical data and labeling information to suppo
the full submission of the PMA. Because this completes the Modular PMA submission, FDA considers the Modular PMA closed a
assigns a new PMA number to the complete PMA Modular submission – i.e., all content submitted from this point forward support
the Original PMA.

Company A also provides the updates to non-clinical data, which includes Comparability Data (i.e., chemical and mechanical testing) for the source change of their wrinkle filler, Deep-Fill.
Test Case Objective: - New module that changes the submission type.
Test Requirements*:* - The message shall indicate that the application type changed from Modular PMA to PMA.

Final Module – Clinical and Labelling Submission Contents

[RPS] Data Elements	Code	Identifier
Application	Modular PMA	P150020
Submission	Original	
Submission Unit	Submission	

Submission Contents

CoU	Keywords	Document Title	Application/Submission
CH.1.0.1 Cover Letter		Cover Letter	P150020

		(Filename: file44.pdf)	
CH.1.1 Application Form	FDA Cover Sheet	FDA Application Form (Filename: file55.pdf)	P150020
CH.2.0 - [Submission Context] Chapter ToC		Submission TOC (Filename: file45.pdf)	P150020
CH2.3.1 - Comprehensive Device Description & Principle of Operation		SSED (Filename: file46.pdf)	P150020
CH.3.2.2 - Declaration and/or Certification of Conformity		Standards Certification of Conformity (Filename: file41.pdf)	P150020
CH.3.3.2.2 – Full Report (Chemical Characterization)	GLP, Safety, Performance, In Vitro Study C-102 2011-01-01]	Chemical Characterization Full Report (Filename: file42.pdf)	P150020
CH.3.3.1.1 – Full Report (Physical and Mechanical Characterization)	GLP, Safety, Performance, In Vitro Study M-105 2011-01-01]	Mechanical Full Report (Filename: file43.pdf)	P150020
CH.4.1 - Overall Clinical Evidence Summary		Clinical Evidence (Filename: file47.pdf)	P150020
CH.4.1.1.1 - Clinical Trial Synopsis	Controlled Phase (0-24 months) Protocol D-99	Clinical Trial Synopsis (Filename: file48.pdf)	P150020

	2013-01-01		
CH.4.1.1.2 - Clinical Trial Report	Controlled Phase (0-24 months) Protocol D-99 2013-01-01	Clinical Trial Report (Filename: file49.pdf)	P150020
CH.4.1.1.3 - Clinical Trial Data	Controlled Phase (0-24 months) Protocol D-99 2013-01-01	Clinical Trial Data (Filename: file50.pdf)	P150020
CH.4.1.2 - Clinical Literature Review and Other Reasonable Known Information		Literature Ref#1 (Filename: file51.pdf)	P150020
CH.5.3 - Physician Labelling		Physician Labelling (Filename: file52.pdf)	P150020
CH.5.4 - Patient Labelling		Patient Labeling (Filename: file53.pdf)	P150020
CH.5.5 - Technical/Operators Manual		Manual (Filename: file54.pdf)	P150020

Appendix G: IMDRF RPS Beta Test Findings – Lessons Learned

ID #	Subject	Finding Summary	Examples	Resolution
1	Bundled Submissions - attribution of content	In some bundled submission test samples, CoUs were tagged with the submission ID's the CoU supported instead of those that should be negated. The model has a fixed value that indicates the submission ID's should be referenced only if the CoU does not pertain to those submissions.	<subjectOf negationInd="false"> <submissionReference> <id> <item root="9a2411d1-16cf-4359-b970-4d30ed8ee3c6"/> </id> </submissionReference> </subjectOf>	Final resolution will depend upon the HL7 solution for bundled submissions.
		There are 2 ways to provide a negation reference for more than one submission on a CoU: 1) One Submission reference element with multiple "item" parts	<subjectOf negationInd="true"> <submissionReference> <id> <item root="9a2411d1-16cf-4359-b970-4d30ed8ee3c6"/> <item root="9a2411d1-16cf-4359-b970-4d30ed8ee3c4"/> </id> </submissionReference> </subjectOf>	Final resolution will depend upon the HL7 solution for bundled submissions.
		2) Multiple Submission reference elements with only one submission id per submission reference element Different approaches were taken by different vendors.	<subjectOf negationInd="true"> <submissionReference> <id><item root="9a2411d1-16cf-4359-b970-4d30ed8ee3c6"/></id> </submissionReference> </subjectOf> <subjectOf negationInd="true"> <submissionReference> <id><item root="9a2411d1-16cf-4359-b970-4d30ed8ee3c4"/></id> </submissionReference> </subjectOf>	Final resolution will depend upon the HL7 solution for bundled submissions.
2	Context of Use Life cycle	When submitting the next version of a CoU, some vendors implemented the version but did not use the sequel to element		Revise the Implementation Guide to reflect a consistent approach for COU Lifecycle. Internal IMDRF discussions are still required to determine the implementation approach.
		When withdrawing a Submission from a bundle, some samples inactivated the CoUs. This would remove the CoU from all submissions in the bundle, rather than just the submission being withdrawn.		Final resolution will depend upon the HL7 solution for bundled submissions.
3	Cover Letter Life cycle	When a submission unit was withdrawn in a test case, the test samples inactivated the cover letter from previous submission units. This is probably not appropriate.		Additional IMDRF discussion required to determine how cover letters whould be handled with a submission is withdrawn
4	Application and Submission Numbers	Application Numbers and Submission numbers are generally not assigned by device regulators prior to submission. Some test samples included an assigned regional ID with the first submission unit. Others just included a GUID.		If a sponsor submits a Submission Unit for which the Application number and/or Submission Number has not yet been assigned by the regulator, they should simply assign a GUID and omit the regional identifier not yet assigned. Once a regulator assigns a regional identification number for the Application and/or Submission, the sponsor will include the assigned ID in future submission units pertaining to that Application / Submission, along with the originally submitted Application and Submission GUIDs. This resolution applies to testing activities. Future implementation discussions are required to determine the final resolution.
5	Sequence Number	Sequence Number format and approach varied widely between different vendors. Within IMDRF, not all regions assign sequence numbers. And we asked that this attribute be made optional in the RPS model to accommodate our current practices.	Assigned sequences numbers of 1 and 000000 for the first submission unit in the same test case.	Sequence number is now optional, which should resolve the issue. The IG will specify that Sequence Number should not be used for devices.
6	Keyword Definitions	There were inconsistencies in how keyword definitions were handled in the test samples between vendors. Some vendors provided one element for each keyword definition within the application. Others provided one element for each keyword type, and included multiple keywords within that element. The draft IG specified one element for each keyword definition.		The IMDRF resolution will depend on HL7 ballot reconcilliation of proposed keyword changes.
		Some test samples included the keyword definitions in every submission unit. Others included the full set of definitions only in the first submission unit, and then provided updated definitions in subsequent submission units.		The IMDRF resolution will depend on HL7 ballot reconcilliation of proposed keyword changes.

ID #	Subject	Finding Summary	Examples	Resolution
7	Submission Contacts	The RPS model allows Submission contact to be provided in 2 places: on the Submission and in the Submission Unit. Test samples were inconsistent in the use of Contact. Some vendors put it in both places, others just used one location. Test samples included the same contact information in each Submission Unit. If there is no change to the previously provided contact information, it should not be provided again in a subsequent Submission Unit.	The below was used in submissionUnit and submission elements <callBackContact> <contactParty> <id/> <code code="" codeSystem=""/> <statusCode code="active"/> <contactPerson> <name xsi:type="BAG_EN"> <item> <part type="GIV" value=""/> <part type="FAM" value=""/> </item> </name> <telecom xsi:type="BAG_TEL"> <item value="" use="PUB"/> <item value="" use="PUB"/> </telecom> </contactPerson> </contactParty></callBackContact>	IMDRF IG will constrain the use of Contact Information to the Submission level, and specify that Contact Information only be included in the first submission unit, and when there are updates during review of the submission. Final resolution will depend on HL7 Ballot Reconcilliation. NOTE: the current ballot comments propose removal of the contact information from Submission Unit. If this change is accepted, constraining Contact Information to the Submission level may be unecessary. The resolution to open issues around bundled submissions may also change this resolution.
8	Use of Application Reference	When a bundled submission is made and the products within the bundled submission are related, the IG should specify that an Application Reference be used to show Applications for related products.	<reference> <applicationReference> <id root="" extension="DV-2013-CA-22334-9"/> </applicationReference> </reference>	The IMDRF IG should specify the business scenarios where related applications should be used. Additional IMDRF discussion is required to determine the specific implementation guide change(s), and whether the approach will be harmonized or regional. Note that this resolution may also be dependent on the HL7 ballot reconcilliation for bundled
9	Use of Priority Numbers	Priority numbers in test samples were not in a consistent format from each vendor; and did not align with the draft IG.	The numbers varied from 1 or 1.00 or 100.	Further IMDRF discussion is required to determine the resolution.
		Identical CoU - Keyword pairs were given the same priority number in each submission unit.		Further IMDRF discussion is required to determine the resolution.
		In some samples the priority number was incremented, but by a single digit - leaving no room to insert additional content with the same CoU -Keyword pair in subsequent submission units.		Further IMDRF discussion is required to determine the resolution.
10	Use of the Document Element	Some vendors applied life cycle to the Document Element by assigning set ID and version within the samples. The IMDRF IG specifies that life cycle be managed at the CoU level.	<document> <id root=""/> <title value="Mechanical Testing Report"/> <text integrityCheckAlgorithm="SHA256" language="en">	Further IMDRF discussion is required to determine the resolution.
11	General XML Inconsistencies & Observations	Applicant elements in the review.holder and application.holder elements. There is nothing written in the IMDRF-IG but in the section "2.5 XML Components", where a applicant element appears only in a application.holder element.	<holder> <applicant> <sponsorOrganization> <id xsi:type=""> <item root="" extension="" /> </id> <name xsi:type="BAG_EN"> <item> <part value=""></part> </item> </name> <addr xsi:type="BAG_AD"> <item> <part value="" type="STR" /> <part value="" type="CTY" /> <part value="" type="CNT" /> </item> </addr> </sponsorOrganization> </applicant></holder>	Regional concern. Update will be made to the IMDRF IG to clarify that Regional IG should be referenced for specific details. Regional IGs will need to be updated to address the concern.
		The samples had references to XML elements that are not in the IG.	document.statusCode document.setId document.versionNumber	IMDRF needs to confirm the Implementation Guide is accurate and clear in this area
		When inactivating a CoU, the IG specifies that the Code, Code Systems and Version number attributes are not used. Some test samples included these values when inactivating a CoU.	code@code code@codeSystem versionNumber@valueIn	IMDRF needs to confirm the Implementation Guide is accurate and clear in this area
12	Testing Methodology	During the first round of testing our test scripts focused on very detailed complex business scenarios. This was necessary to gain understanding and engagement from business stakeholders. However it resulted in a lot of additional effort from the vendors to produce the samples. It also became confusing for everyone to focus on the specific criteria we were trying to test.	Things to consider: Define the test cases and only request key information from the vendor in their response. Meet with the vendors to talk through the test cases prior to them providing XML. Provide the essential XML elements we want provided in the vendor XML samples. As an alternative to getting XML the vendors can provide psuedo logic (In Words) describing how they would create the XML and the appropriate dependencies.	It is anticipated that future rounds of testing will use test scenarios that reflect only specific aspects of the message that we are trying to test. Although the initial Test Case Scenarios may be developed to the same level of detail used in round 1 to make sure the requirements are understood. We will implement a subsequent step to remove all things from the final Test Case Scenario that do not contribute to very specific test objectives.
13	Modular PMAs	Modular PMA requirements are not met by the model; unable to specify content for more than one module in a submission unit with the current elements.		Resolution depends on the HL7 ballot reconciliation.