HEALTH SCIENCES AUTHORITY

REGULATORY GUIDANCE

MARCH 2024

MEDICAL DEVICE TECHNICAL REFERENCE

TR-01: Contents of a Product Registration Submission for General Medical Devices using the ASEAN CSDT

Revision 3

HSA Health Sciences Authority

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PREFACE

This document is intended to provide general guidance. Although we have tried to ensure that the information contained here is accurate, we do not, however, warrant its accuracy or completeness. The Health Sciences Authority (HSA) accepts no liability for any errors or omissions in this document, or for any action/decision taken or not taken as a result of using this document. The information contained in this document should not be a substitute for professional advice from your own professional and healthcare advisors.

REVISION HISTORY

Guidance Version (Effective Date) *[3 latest revisions]*	Revision
R1.1 ►TR-01: Revision 1.1 (17 February 2020)	R1.1
R1.2 ►TR-01: Revision 1.2 (20 October 2020)	R1.2
R1.3 ►TR-01: Revision 1.3 (13 August 2021)	R1.3
R2 ►TR-01: Revision 2 (31 July 2023)	R2
R3 ►TR-01: Revision 3 (01 March 2024)	R3

**Where applicable, changes and updates made in each document revision are annotated with or within the arrow symbol "►". Deletions may not be shown.*

1. INTRODUCTION

1.1. Purpose

This document aims to provide guidance on the preparation of a product registration submission for general medical devices using the ASEAN Common Submission Dossier Template (CSDT). In particular, this document serves to clarify the information to be included in each section of the CSDT and the format that this information is to be submitted in.

1.2. Background

The ASEAN CSDT document contains elements of the Global Harmonisation Task Force (GHTF) guidance document titled “Summary Technical Documentation for Demonstrating Conformity to the Essential Principles of Safety and Performance of Medical Devices (STED)” (Document number: SG1/N011R17). The ASEAN CSDT document is intended to provide a common template for the submission of medical device information to medical device regulatory authorities of ASEAN member countries.

Product registration applications for medical devices submitted to HSA must be prepared in the format set out in the ASEAN CSDT document. This guidance document must be read in conjunction with the ASEAN CSDT document, the GN-15 Guidance to Medical Device Product Registration and other relevant guidance documents. Sections of the ASEAN CSDT for which guidance has not been provided are taken to be self-explanatory.

1.3. Scope

This document applies to all general medical devices. This document is not applicable to in vitro diagnostic medical devices. Please refer to the GN-18 Guidance on Preparation of a Product Registration Submission for In Vitro Diagnostic Medical Devices using the ASEAN CSDT.

Examples cited in this document are purely for illustrative purposes only. The examples cited are non-prescriptive and are not cited for the purpose of interpreting the sections or statements that appears therein.

1.4. Definitions

Definitions that do not indicate they are set out in the Health Products Act (*Act*) and Health Products (Medical Devices) Regulations 2010 (*Regulations*) are intended as guidance in this document. These definitions are not taken verbatim from the above legislation and should not be used in any legal context. These definitions are meant to provide guidance in layman terms.

ADVERSE EFFECT *(as set out in the Act)*: means any debilitating, harmful, toxic or detrimental effect that the medical device has been found to have or to be likely to have on the body or health of humans when such a medical device is used by or administered to humans.

ADVERSE EVENT: any event or other occurrence, that reveals any defect in any medical device or that concerns any adverse effect arising from the use thereof.

FIELD SAFETY CORRECTIVE ACTION *(as set out in the Regulations)*: any action taken to reduce a risk of death or serious deterioration in the state of health associated with the use of a medical device, including

- the return of the medical device to its product owner;
- replacement or destruction of the medical device;
- any action regarding the use of the medical device that is taken in accordance with the advice of its product owner;
- the clinical management of any patient who has used the medical device;
- the modification of the medical device;
- the retrofitting of the medical device in accordance with any modification to it or any change to its design by its product owner;

- the making of any permanent or temporary change to the labelling or instructions for use of the medical device; or
- any upgrade to any software used with the medical device, including any such upgrade carried out by remote access.

MEDICAL DEVICE: means a medical device as described in the First Schedule of the *Act.*

PRODUCT OWNER *(as set out in the Regulations)*: in relation to a health product, means a person who —

- supplies the health product under his own name, or under any trade mark, design, trade name or other name or mark owned or controlled by him; and
- is responsible for designing, manufacturing, assembling, processing, labelling, packaging, refurbishing or modifying the health product, or for assigning to it a purpose, whether those tasks are performed by him or on his behalf.

REGISTRANT (as set out in the *Act*): in relation to a registered health product, means the person who applied for and obtained the registration of the health product under the *Act*.

2. PREPARATION OF A PRODUCT REGISTRATION SUBMISSION BASED ON THE ASEAN CSDT

The registrant shall take note of the following pointers when preparing a CSDT dossier for submission to HSA:

- the prepared CSDT dossier must contain all sections, i.e. sections 3.0 to 4.6.1. Where there are sections not applicable to the medical device, the reason for the non-applicability should be provided under the section heading.
- the CSDT dossier must be prepared in English;
- copies of labelling, certificates and reports that are referenced within the CSDT submission shall be submitted as annexes to the CSDT;
- all reports submitted as part of the CSDT should be signed-off and dated by the person issuing the report. This person should be authorised to issue such documents;
- where supporting documents such as reports or certificates are provided every document must be submitted in full, i.e. all the pages of a document must be submitted;
- all copies of labelling, certificates, reports and other documents submitted must be legible;
- all certificates submitted must be within its validity period.

The level of detail of information to be provided under each CSDT section will depend on the evaluation route, i.e. immediate, expedited, abridged or full evaluation. Registrants are advised to refer to the GN-15 Guidance on Medical Device Product Registration for details on the data requirements for the evaluation routes.

3. EXECUTIVE SUMMARY

ASEAN Common Submission Dossier Template, Document No.: N0013

3. Executive Summary

An executive summary shall be provided with the common submission dossier template, which shall include the following information:

- an overview, e.g., introductory descriptive information on the medical device, the intended uses and indications for use of the medical device, any novel features and a synopsis of the content of the CSDT;
- commercial marketing history;
- intended uses and indications in labelling;
- list of regulatory approval or marketing clearance obtained.
- status of any pending request for market clearance; and
- important safety/performance related information.

Guidance:

(a) If the medical device contains any **novel features**, e.g. nanotechnology, a description of the novel feature is to be provided.

(b) For **commercial marketing history**, the list of countries from HSA's reference regulatory agency jurisdictions where the medical device is marketed and the dates of introduction into each country is to be provided.

(c) For applications submitted via the immediate, expedited and abridged evaluation routes, as part of the **list of regulatory approvals or marketing clearances obtained and status of any pending request for market clearance**, the following information is required:

(i) the registration status (i.e. submitted, not submitted, pending approval, rejected or withdrawn) and intended use and indications of the medical device in all reference agencies. This information is to be provided in a tabular format as given below:

Reference agency	Intended use	Indications of use	Registration status and date	Reason for rejection or withdrawal (*if applicable*)

NOTE The immediate, expedited and abridged evaluation route applies to medical devices that have been evaluated and have obtained marketing clearances or approvals in at least one of the GHTF founding members (Australia, Canada, European Union, Japan and United States of America).

The types of marketing clearances or approvals from each country/region that qualify for the immediate, expedited and abridged routes are specified in GN-15.

(ii) copies of certificates or approval letters from each reference agency for the medical device are to be provided as an annex to the CSDT submission. For CE marked devices, the declaration of conformity by the product owner must be submitted together with the EC certificate issued by the notified bodies.

(iii) declaration (prepared on product owner letterhead) on labelling, packaging and instructions for use (IFU):

- if the labelling, packaging and IFU of the medical device for sale in Singapore is **identical** to that approved by each reference agency, a declaration that the labelling, packaging and IFU of the medical device for sale in Singapore is **identical** to that approved by each reference agency is to be provided.
- if the labelling, packaging and IFU of the medical device for sale in Singapore is **not identical** to that approved by each reference agency, the differences between Singapore's labelling, packaging and IFU and each reference agency's approved labelling, packaging and IFU is to be described. The reason for the differences must also be provided.

(d) For **important safety/performance related information**, the following information is to be provided:

(i) summary of reportable adverse events and field safety corrective actions (FSCAs) for the medical device since its first introduction on the global market. This is to be provided in a tabular format as given below. If there have been no adverse events or FSCAs to date, an attestation that this is the case is required (prepared on product owner letterhead). R1.3 ►This attestation is not restricted to usage only as intended by the product owner. ◄

(ii) For FSCAs that are 'open', product owner's root cause analysis of the issue, corrective and preventive actions (CAPA) implemented to address the root cause of issue in the FSCA shall be provided.

For reported adverse events:

Description of adverse event	Frequency of occurrence (number of reports / total units sold) in the period of dd/mm/yyyy to dd/mm/yyyy

For reported field safety corrective actions (FSCAs):

Date of FSCA	Reason for FSCA	Countries where FSCA was conducted

(iii) if the medical device contains one or more of the following, a description of the following must be provided:

- animal cells, tissues and/or derivatives thereof, rendered non-viable (e.g. porcine heart valves, catgut sutures, etc);
- R1.2 ► derivatives of cells or tissues of human origin, rendered non-viable ◄

- cells, tissues and/or derivatives of microbial or recombinant origin (e.g. dermal fillers based on hyaluronic acid derived from bacterial fermentation processes);
- irradiating components, ionising (e.g. x-ray) or non-ionising (e.g. lasers, ultrasound, etc).

4. ELEMENTS OF THE COMMON SUBMISSION DOSSIER TEMPLATE

4.1. Relevant Essential Principles and Method Used to Demonstrate Conformity

ASEAN Common Submission Dossier Template, Document No.: N0013

4. Elements of the Common Submission Dossier Template

4.1 Relevant Essential Principles and Method Used to Demonstrate Conformity

The CSDT should identify the Essential Principles of Safety and Performance of Medical Devices that are applicable to the device. The CSDT should identify the general method used to demonstrate conformity to each applicable Essential Principle. The methods that may be used include compliance with recognised or other standards, state of the art or internal industry methods, comparisons to other similar marketed devices, etc.

The CSDT should identify the specific documents related to the method used to demonstrate conformity to the Essential Principles.

4.1.1 Essential Principles and Evidence of Conformity

The evidence of conformity can be provided in tabular form with supporting documentation available for review as required. Templates for the essential principles conformity checklist are included in the Annexes of GN-16

Guidance on Essential Principles for Safety and Performance of Medical Devices.

For example, a completed Essential Principles conformity checklist can be used to demonstrate that a recognised test standard was used as part of the method to demonstrate conformity to one Essential Principle. As such, CSDT would then include a declaration of conformity to the standard, or other certification permitted by the Regulatory Authority, and a summary of the test data, if the standard does not include performance requirements. When the manufacturer uses international or other standards to demonstrate conformity with the Essential Principles, the CSDT should identify the full title of the standard, identifying numbers, date of the standard, and the organisation that created the standard. When the manufacturer uses other means, such as internal standards, the CSDT should describe the means.

Not all the essential principles will apply to all devices and it is for the manufacturer of the device to assess which are appropriate for his particular device product. In determining this, account must be taken of the intended purpose of the device.

Guidance:

The Essential Principles (EP) conformity checklist is to be prepared based on the list of EP as described in GN-16. The medical device to which the EP conformity checklist is applicable should be identified on the checklist itself. Where applicable, the various configurations/variants of the medical device covered by the checklist are to be identified in the checklist. The columns in the recommended format for the checklist (Annexes of GN-16) should be completed as follows:

(a) Applicable to the medical device?

(i) either a 'Yes' or 'No' answer is required. If the answer is 'No' this should be briefly explained. For example: For a medical device that does not incorporate biological substances, the reply to EPs specifying requirements for biological substances would be 'No – The medical device does not incorporate biological substances.'

(b) Method of conformity

(i) state the title and reference of the standard(s), industry or in-house test method(s), comparison study(ies) or other method used to demonstrate compliance. For standards, this should include the date of the standard and where appropriate, the clause(s) that demonstrates conformity with the relevant EP. Where a standard is referred to more than once in the checklist, the reference number and date can be repeated.

(c) Identity of specific documents

(i) this column should contain the reference to the actual technical documentation that demonstrates compliance to the EP, i.e. the certificates, test reports, study reports or other documents that resulted from the method used to demonstrate compliance, and its location within the technical documentation.

4.2. Device Description

4.2.1. Device description and features

ASEAN Common Submission Dossier Template, Document No.: N0013

4.2 Device Description

4.2.1 Device description and features

Besides a general description of the device, a more detailed description of the device attributes is necessary to explain how the device functions, the

basic scientific concepts that form the fundamentals for the device, the component materials and accessories used in its principles of operation as well as packaging. A complete description of each functional component, material or ingredient of the device should be provided, with labelled pictorial representation of the device in the form of diagrams, photographs or drawings, as appropriate.

Guidance:

The following information shall be submitted to meet the requirements of this section:

(a) A complete description of the medical device;

(b) Principles of operation or mode of action;

(c) Risk class and applicable classification rule for the medical device according to the *Regulations*;

(d) A description of the accessories, other medical devices and other products that are not medical devices, which are intended to be used in combination with the medical device. For example, patients implanted with a stent or heart valve need to be managed with appropriate medication such as warfarin, as recommended by the product owner;

(e) A description or complete list of the various configurations of the medical device to be registered. This is to be provided using the Excel template found in Annex 2.

(f) A complete description of the key functional elements (e.g. its parts or components, including software if appropriate), its formulation, its composition, its functionality and R1.3 ►its connectivity capabilities (e.g. wireless enabled, Bluetooth enabled, internet-connected and network-

connected devices) if applicable.◄ Where appropriate, this will include labelled pictorial representation (e.g. diagrams, photographs and drawings), clearly indicating key parts/components, including sufficient explanation to understand the drawings and diagrams;

(g) R3 ►Summary of software development life cycle (span the entire life cycle from software development to software maintenance) and the processes (e.g, software configuration management and software problem resolution process) that are in place to manage the various life cycle activities. The software requirements specification (SRS) that documents functional, performance, interface, design, developmental, and other requirements for the software should be provided. This document describes what the software device is supposed to do. ◄

(h) An explanation of any novel features.

4.2.2. Intended use

4.2.3. Indications

4.2.4. Instructions of use

4.2.5. Contraindications

4.2.6. Warnings

4.2.7. Precautions

4.2.8. Potential adverse effects

ASEAN Common Submission Dossier Template, Document No.: N0013

4.2.2 Intended use

This means the use for which the medical device is intended, for which it is suited according to the data supplied by the manufacturer in the instructions as well as the functional capability of the device.

4.2.3 Indications

This is a general description of the disease or condition that the medical device will diagnose, treat, prevent, cure or mitigate and includes a description of the target patient population for which the medical device is intended.

4.2.4 Instructions of use

These are all necessary information from the manufacturer including the procedures, methods, frequency, duration, quantity and preparation to be followed for safe use of the medical device. Instructions needed to use the device in a safe manner shall, to the extent possible, be included on the device itself and/or on its packaging by other formats / forms.

4.2.5 Contraindications

This is a general description of the disease or condition and the patient population for which the device should not be used for the purpose of diagnosing, treating, curing or mitigating. Contraindications are conditions under which the device should not be used because the risk of use clearly outweighs any possible benefit.

4.2.6 Warnings

This is the specific hazard alert information that a user needs to know before using the device.

4.2.7 Precautions

This alerts the user to exercise special care necessary for the safe and effective use of the device. They may include actions to be taken to avoid effects on patients/users that may not be potentially life-threatening or result in serious injury, but about which the user should be aware. Precautions may also alert the user to adverse effects on the device of use or misuse and the care necessary to avoid such effects.

4.2.8 Potential adverse effects

These are potential undesirable and serious outcomes (death, injury, or serious adverse events) to the patient/user, or side effects from the use of the medical device, under normal conditions.

Guidance:

Information requested for under sub-sections 4.2.2 to 4.2.8 would be typically found in the instructions for use (IFU). Therefore, the IFU can be submitted in lieu of these sections. Any of the sections 4.2.2 to 4.2.8 that are not addressed in the IFU must be addressed separately in the submission dossier. The IFU is also known as the product insert, user or operating manual.

4.2.9. Alternative therapy

ASEAN Common Submission Dossier Template, Document No.: N0013

4.2.9 Alternative therapy

This is a description of any alternative practices or procedures for diagnosing, treating, curing or mitigating the disease or condition for which the device is intended.

Guidance:

Describe briefly the alternative practices or procedures to achieve the same intended purpose as that of the medical device. For example, for a drug eluting stent, alternative therapies will include exercise, diet, drug therapy, percutaneous coronary interventions (e.g. balloon angioplasty, atherectomy and bare metal stenting) and coronary artery bypass graft surgery. This does not include any treatment practices or procedures that are considered investigational.

4.2.10. Materials

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4.2.10 Materials

A description of the materials of the device and their physical properties to the extent necessary to demonstrate conformity with the relevant Essential Principles. The information shall include complete chemical, biological and physical characterisation of the materials of the device. Where there are any specific concerns related to the safety of the materials, additional information necessary to address the quality and safety of the materials shall also be provided.

Guidance:

The following information shall be submitted to meet the requirements of this section:

(a) List of materials of the medical device making either direct (e.g. with the mucous membrane) or indirect contact (e.g., during extracorporeal circulation of body fluids) with a human body;

(b) Complete chemical, biological and physical characterisation of the materials of the medical device making either direct (e.g. mucous membrane) or indirect contact (e.g., during extracorporeal circulation of body fluids) with a human body;

(c) Where there are specific concerns related to the safety of materials used in the medical device e.g. impurities, residue levels and exposure to plasticisers such as Bis(2-ethylhexyl) phthalate (DEHP), additional information to address these safety concerns shall be provided. This could include conformity to relevant material standards, Certificate of Analysis, or a risk assessment on the safety of the materials used. Depending on the risk of the exposure of these materials to the patient and/or user, additional

mitigation measures such as informing users of the presence of these materials via the device labelling, may be required.

(d) For medical devices intended to emit ionising radiation, information on radiation source (e.g. radioisotopes) and the material used for shielding of unintended, stray or scattered radiation from patients, users and other persons shall be provided.

4.2.11. Other Relevant Specifications

ASEAN Common Submission Dossier Template, Document No.: N0013

4.2.11 Other Relevant Specifications

The functional characteristics and technical performance specifications for the device including, as relevant, accuracy, sensitivity, specificity of measuring and diagnostic medical devices, reliability and other factors; and other specifications including chemical, physical, electrical, mechanical, biological, software, sterility, stability, storage and transport, and packaging to the extent necessary to demonstrate conformity with the relevant Essential Principles.

Guidance:

A list of the features, dimensions and performance attributes of the medical device, its variants and accessories that would typically appear in the product specification made available to the end user, e.g. in brochures and catalogues, will satisfy the requirements of this section.

4.2.12. Other Descriptive Information

ASEAN Common Submission Dossier Template, Document No.: N0013

4.2.12 Other Descriptive Information

Other important descriptive characteristics not detailed above, to the extent necessary to demonstrate conformity with the relevant Essential Principles

(for example, the biocompatibility category for the finished device).

NOTE For simple, low risk devices, the above information will typically be contained in already existing sales brochures, instructions for use, etc.

Guidance:

This section allows for the inclusion of other descriptive information about the medical device that is not addressed in the preceding sections. For example, when demonstrating compliance with the EPs for an ingested camera pill used to image the gastrointestinal tracts of outpatients, product owners may wish to describe in detail in this section the use of a patient card (drafted in the local language) to be carried by the patient during the period of imaging. In the event of non-excretion of the camera pill or acute stomach pain, the patient card can be produced to attending physicians, thereby reducing the risk of miscommunication between patient and physician.

4.3. Summary of Design Verification and Validation Documents

ASEAN Common Submission Dossier Template, Document No.: N0013

4.3 Summary of Design Verification and Validation Documents

This section should summarise or reference or contain design verification and design validation data to the extent appropriate to the complexity and risk class of the device:

Such documentation should typically include:

(i) declarations/certificates of conformity to the “recognised” standards listed as applied by the manufacturer; and/or

(ii) summaries or reports of tests and evaluations based on other standards, manufacturer methods and tests, or alternative ways of demonstrating compliance.

EXAMPLE: The completed Table of Conformity to the Essential Principles that a recognised test standard was used as part of the method to demonstrate conformity to one Essential Principle. Section 3.0 of the CSDT would then include a declaration of conformity to the standard, or other certification permitted by the relevant Regulatory Authority, and a summary of the test data, if the standard does not include performance requirements.

The data summaries or tests reports and evaluations would typically cover, as appropriate to the complexity and risk class of the medical device:

- a listing of and conclusions drawn from published reports that concern the safety and performance of aspects of the medical device with reference to the EPs;
- engineering tests;
- laboratory tests;
- biocompatibility tests;
- animal tests;
- simulated use;

software validation.

Guidance:

(a) For all aspects of verification and validation described in this section and in sub-sections 4.3.1, 4.3.1.1 and 4.3.1.2, where no testing was undertaken for the medical device, a rationale for that decision must be provided. Evidence to support the rationale shall be provided.

(b) For medical devices provided sterile, the following information is to be provided in this section:

(i) detailed information of the initial sterilisation validation including bioburden testing, pyrogen testing, testing for sterilant residues (if applicable) and packaging validation. If initial sterilisation validation is not performed, adequate justification must be provided. For example, if reference to the sterilisation validation conducted for another medical

device is made for the medical device in the application, the justification for the applicability of the previously conducted validation to the current medical device must be provided. In addition, the initial sterilisation validation report for the reference medical device must be provided;

(ii) evidence of the ongoing revalidation of the process. Typically this would consist of arrangements for, or evidence of, revalidation of the packaging and sterilisation processes;

(iii) detailed validation information should include the method used, sterility assurance level attained, standards applied, the sterilisation protocol developed in accordance with those standards, and a summary of results;

(iv) post-sterilisation functional test on the medical device;

(v) if the sterilant is toxic or produces toxic residuals (e.g. ethylene oxide residues), test data and methods that demonstrate that post-process sterilant and/or residuals are within acceptable limits must be presented.

(c) For medical devices with a shelf life, data demonstrating that the relevant performances and characteristics of the medical device are maintained throughout the claimed shelf life which the “expiry“ date reflects is to be provided in this section. This may include:

(i) prospective studies using accelerated ageing, validated with real time degradation correlation; or

(ii) retrospective studies using real time experience, involving e.g. testing of stored samples, review of the complaints history or published literature etc.; or

(iii) a combination of (i) and (ii).

If real time shelf-life data is not available, shelf-life data collected from accelerated studies can be used to support the initial shelf-life claim. The rationale for the parameters selected for the accelerated studies must be provided. Shelf-life data collected from accelerated studies must be supported by real time testing to confirm the initial shelf-life claim. The final real time study report must be submitted when completed.

(d) As the absence of an "expiry" date constitutes an implicit claim of an infinite shelf life, evidence demonstrating the following shall be provided:

(i) that there are *no* safety-related performances or characteristics which are likely to deteriorate over time, or

(ii) that the *extent* of any likely deterioration does not represent an unacceptable risk, or

(iii) that the *period* over which unacceptable deterioration occurs is far beyond the likely time of the first use of the medical device e.g. 30 years.

(e) For devices that do not have expiry dates (e.g. infusion pump, digital thermometer), the projected useful life of the medical device must be provided. Manufacturers may refer to 'ISO 13485:2016 – Medical devices – A practical guide' for information on how to determine the projected useful life.

(f) For medical devices with a measuring function where inaccuracy could have a significant adverse effect on the patient, studies demonstrating conformity with metrological requirements shall be provided.

(g) R2 ► For refurbished devices, design verification and validation reports should demonstrate that the finished refurbished medical device meets the essential principles of safety and performance and where applicable, there is

no change to its performance, safety specifications, or intended use from the original medical device. ◄

(h) Medical device cybersecurity is a shared responsibility between stakeholders (i.e. the health care facilities, patients, providers, and the Product Owner of the medical devices). For connected medical devices (e.g. wireless enabled, R1.3 ►Bluetooth enabled, ◄ internet-connected and network-connected devices), information to support the cybersecurity of these devices shall be provided. This will include, but is not limited to:

(i) Cybersecurity vulnerabilities and risk management approach for the device R1.3 ► -- ◄. The risk management approach should cover the following aspects:

- User access control or authorisation;
- User authentication;
- Mechanisms to ensure the confidentiality of any sensitive or personally-identifiable data;
- Communication integrity over any remote interface;
- The environment in which the device is intended to be used (e.g. secured network, anti-virus software, firewall and etc.).

(ii) Cybersecurity controls measures

(iii) R1.3 ► Security test reports and/or evidence to verify the device cybersecurity and effectiveness of the implemented cybersecurity control measures (not applicable to IBR & ICR applications). ◄

(iv) On-going plans for surveillance, timely detection and management of the cybersecurity related threats during the useful life of the device, especially when a breach has been detected. As cybersecurity threats are continuously evolving, it is important to ensure that there are on-going plans in place to appropriately manage such threats.

4.3.1. Pre-clinical Studies

ASEAN Common Submission Dossier Template, Document No.: N0013

4.3.1 Pre-clinical Studies

Details must be provided on all biocompatibility tests conducted on materials used in a device. At a minimum, tests must be conducted on samples from the finished, sterilised device. All materials that are significantly different must be characterised. Information describing the tests, the results and the analyses of data must be presented.

Complete pre-clinical physical test data must be provided, as appropriate. The report must include the objectives, methodology, results and manufacturer's conclusions of all physical studies of the medical device and its components. Physical testing must be conducted to predict the adequacy of device response to physiological stresses, undesirable conditions and forces, long-term use and all known and possible failure modes.

Pre-clinical animal studies used to support the probability of effectiveness in humans must be reported. These studies must be undertaken using good laboratory practices. The objectives, methodology, results, analysis and manufacture's conclusions must be presented. The study conclusion should address the device's interactions with animal fluids and tissues and the functional effectiveness of the device in the experimental animal model(s). The rationale (and limitations) of selecting the particular animal model should be discussed.

Guidance:

Data to be submitted in this section includes any pre-clinical laboratory or animal studies, as appropriate for the medical device.

4.3.1.1. Software Verification and Validation Studies

ASEAN Common Submission Dossier Template, Document No.: N0013

4.3.1.1 Software Verification and Validation Studies

The correctness of a software product is another critical product characteristic that cannot be fully verified in a finished product. The manufacturer and/or device sponsor must provide evidence that validates the software design and development process. This information should include the results of all verification, validation and testing performed in-house and in a user's environment prior to final release, for all of the different hardware configurations identified in the labelling, as well as representative data generated from both testing environments.

R1.1► During Product Registration, the Product Owner is required to provide the actual software version to be supplied in Singapore. The software version number that represents various software changes/iteration (e.g. graphic interface, functionality, bug fixes and etc.) is to be submitted. For example, the software version number is 1.2.3 where the first digit (i.e. 1) represents major functionality enhancement, second digit (i.e. 2) represents minor enhancement and last digit (i.e. 3) represents changes due to bug fixes. Such software version information is essential for identification and post-market traceability/follow-up in the event of software changes and field safety corrective actions. Software version numbering that is solely for testing or internal use only (e.g. checking in of source code) are not required. ◄

R3► A traceability analysis should be provided that links product design requirements, design specifications, and testing requirements. It also provides a means of tying together identified hazards with the implementation and testing of the mitigations. ◄

There is no specific guidance for this section of the ASEAN CSDT.

4.3.1.2. Devices Containing Biological Material

ASEAN Common Submission Dossier Template, Document No.: N0013

4.3.1.2 Devices Containing Biological Material

Results of studies substantiating the adequacy of the measures taken with regards to the risks associated with transmissible agents must be provided. This will include viral clearance results for known hazards. Donor screening concerns must be fully addressed and methods of harvesting must also be fully described. Process validation results are required to substantiate that manufacturing procedures are in place to minimise biological risks.

Guidance:

The following information shall be submitted to meet the requirements of this section:

(a) A list of all materials of animal, microbial and/or recombinant origin used in the medical device and in the manufacturing process of the medical device. This includes animal cells, tissues and/or derivatives, rendered non-viable and cells, tissues and/or derivatives of microbial or recombinant origin;

(b) Detailed information concerning the selection of sources/donors;

(c) Detailed information on the harvesting, processing, preservation, testing and handling of tissues, cells and substances;

(d) Process validation results to substantiate that manufacturing procedures are in place to minimise biological risks, in particular, with regard to viruses and other transmissible agents;

(e) Full description of the system for record keeping to allow traceability from sources to the finished medical device.

4.3.2. Clinical Evidence

ASEAN Common Submission Dossier Template, Document No.: N0013

4.3.2 Clinical Evidence

This section should indicate how any applicable requirements of the Essential Principles for clinical evaluation of the device have been met. Where applicable, this evaluation may take the form of a systematic review of existing bibliography, clinical experience with the same or similar medical devices, or by clinical investigation. Clinical investigation is most likely to be needed for higher risk class medical devices, or for medical devices where there is little or no clinical experience.

Guidance:

Information required in this section is to be provided in the form of a clinical evaluation report. The format for the clinical evaluation report is described in the GN-20 Guidance on Clinical Evaluation. This clinical evaluation report documents the assessment and analysis of clinical data to verify the clinical safety and performance of the medical device when used as intended by the product owner.

4.3.2.1. Use of Existing Bibliography

ASEAN Common Submission Dossier Template, Document No.: N0013

4.3.2.1 Use of Existing Bibliography

Copies are required of all literature studies, or existing bibliography, that the manufacturer is using to support safety and effectiveness. These will be a subset of the bibliography of references. General bibliographic references should be medical device-specific as supplied in chronological order. Care should be taken to ensure that the references are timely and relevant to the current application.

Clinical evidence of effectiveness may comprise device-related

investigations conducted domestically or other countries. It may be derived from relevant publications in a peer-reviewed scientific literature. The documented evidence submitted should include the objectives, methodology and results presented in context, clearly and meaningfully. The conclusions on the outcome of the clinical studies should be preceded by a discussion in context with the published literature.

There is no specific guidance for this section of the ASEAN CSDT.

4.4. Device Labelling

ASEAN Common Submission Dossier Template, Document No.: N0013

4.4 Device Labelling

This is the descriptive and informational product literature that accompanies the device any time while it is held for sale or shipped. This section should summarise or reference or contain the following labelling data to the extent appropriate to the complexity and risk class of the device, which is generally considered as “labelling”:

- Labels on the device and its packaging;
- Instructions for use;
- Physician’s manual

Any information and instructions given to the patient, including instructions for any procedure the patient is expected to perform (if applicable).

Guidance:

Apart from device labelling, the promotional material and product brochures should be provided in this section as information to aid in the evaluation of the medical device.

NOTE Inclusion of promotional materials as part of the submission requirement for CSDT does not constitute approval by HSA of the claims contained within the promotional materials, the promotional material itself nor any future revision.

4.4.1. Samples of Labels on the Device and its Packaging

ASEAN Common Submission Dossier Template, Document No.: N0013

4.4.1 Samples of Labels on the Device and its Packaging

This is the printed, written or graphic product information provided on or attached to one or more levels of packaging, including the outer packaging or the outside container wrapper. Any pack labelling, which is not provided on the outer packaging must be easily legible through this outer packaging.

If it is physically impossible to include samples of labels (e.g. large warning labels affixed onto an X-ray machine), alternative submission methods (e.g. photographs or technical drawings), to the extent appropriate, will suffice to meet the requirements of this section.

Guidance:

The labels on the medical device and its packaging are to be provided for the primary and secondary levels of packaging and shall be provided in the original colour. The labels can be provided in the form of artwork. Labels provided must be in English. Labels must be provided for all the components of a medical device system, members of a medical device family and accessories submitted for registration. Alternatively, a representative label may be submitted for variants, provided the variable fields on the artwork are annotated, and the range of values for the variable fields are indicated.

4.4.2. Instructions for Use

ASEAN Common Submission Dossier Template, Document No.: N0013

4.4.2 Instructions for Use

The instructions for use is commonly referred to as the physician's manual, user manual, operator's manual, prescriber's manual or reference manual. It contains directions under which the physician or end-user can use a device safely and for its intended purpose. This should include information

on indications, contraindications, warnings, precautions, potential adverse effects, alternative therapy and the conditions that should be managed during normal use to maintain the safety and effectiveness of the medical device.

There is no specific guidance for this section of the ASEAN CSDT.

4.5. Risk Analysis

4.5.1. Results of Risk Analysis

ASEAN Common Submission Dossier Template, Document No.: N0013

4.5 Risk Analysis

This section should summarise or reference or contain the results of the risk analysis. This risk analysis should be based upon international or other recognised standards, and be appropriate to the complexity and risk class of the device.

4.5.1 Results of Risk Analysis

A list of possible hazards, R1.3 ►including cybersecurity threats if applicable, ◄ for these devices must be prepared. Indirect risks from medical devices may result from device-associated hazards, such as moving parts, which lead to sustained injury, or from user-related hazards, such as ionising radiation from an X-ray machine. The evaluation of these risks against the claimed benefits of the device and the method(s) used to reduce risk to acceptable levels must be described. The individual or organisation that carries out the risk analysis must be clearly identified. The technique used to analyse risk must be specified, to ensure that it is appropriate for the medical device and the risk involved.

Guidance:

Information required in this section is to be provided in the form of a risk management report. It is recommended that the risk management activities be

conducted according to ISO 14971. A risk management report will contain details of the risk analysis, risk evaluation, risk control conducted for the medical device. The risks and benefits associated with the use of the medical device should be described.

4.6. Manufacturer Information

4.6.1. Manufacturing Process

ASEAN Common Submission Dossier Template, Document No.: N0013

4.6 Manufacturer Information

This section should summarise or reference or contain documentation related to the manufacturing processes, including quality assurance measures, which is appropriate to the complexity and risk class of the medical device.

4.6.1 Manufacturing Process

Manufacturing process for the medical device should be provided in the form of a list of resources and activities that transform inputs into the desired output.

EXAMPLE: The manufacturing process should include the appropriate manufacturing methods and procedures, manufacturing environment or condition, and the facilities and controls used for the manufacturing, processing, packaging, labelling, storage of the medical device. Sufficient detail must be provided to enable a person generally familiar with quality systems to judge the appropriateness of the controls in place. A brief summary of the sterilisation method and processing should be included, if any.

If multiple facilities are involved in the manufacture of medical device, the applicable information (e.g. quality assurance certificates issued by an accredited third party inspection body) for each facility must be submitted.

Firms that manufacture or process the medical device under contract to the manufacturer may elect to submit all or a portion of the manufacturing information applicable to their facility directly to the Regulatory Authority in the form of a master file. The manufacturer should inform these contractors of the need to supply detailed information on the medical device. However, it is not the intent of this section to capture information relating to the supply of sub-components (i.e. unfinished medical device) that contributes towards the manufacture of the finished medical device itself.

Guidance:

(a) Information on the manufacturing process should be provided in sufficient detail to allow a general understanding of the manufacturing processes. Detailed proprietary information on the manufacturing process is not required. The information may be presented in the form of a process flow chart showing an overview of production, controls, assembly, final product testing and packaging of the finished medical device.

(b) If the manufacturing process is carried out at multiple sites, the manufacturing activities carried out at each site should be clearly identified. For example:

(i) if the manufacturing process of a product consists of a number of sub-assembly processes, the manufacturing sites where each of these sub-assembly processes are carried out must be identified, and the relationship between these processes must be shown; or

(ii) if multiple sites manufacture the same product, each of these sites must be identified.

(c) The sites (including contract manufacturers) where design and manufacturing activities are performed shall be identified. Quality Management System certificates are to be provided for the design and manufacturing sites (including contract manufacturers) as an annex to the

CSDT submission. This requirement does not apply to component manufacturers (for example, contract manufacturers of PCB boards) except in cases where the components are part of a medical device system (e.g. contract manufacturers for the femoral stem and acetabular cups of a hip implant system).

5. REFERENCES

I. ACCSQ-MDPWG Guidance for Common Submission Dossier Template (Version 6), Document Number: N0013, ASEAN Consultative Committee for Standards and Quality Medical device Product Working Group (ACCSQ-MDPWG), 16 February 2006

II. Summary Technical Documentation for Demonstrating Conformity to the Essential Principles of Safety and Performance of Medical devices (STED), SG1(PD)N011, Global Harmonisation Task Force (GHTF), 26 March 2007

HEALTH SCIENCES AUTHORITY

Health Products Regulation Group
Blood Services Group
Applied Sciences Group

www.hsa.gov.sg

Contact Information:
Medical Devices Cluster
Health Products Regulation Group
Health Sciences Authority

11 Biopolis Way, #11-03 Helios
Singapore 138667
www.hsa.gov.sg

HSA
Health Sciences Authority