applicable for ☒ AIMD, ☒ MDD, and ☒ IVDD

2009-1

Guidance on Design-Dossier Examination and Report Content

1 Background

The objective of this document is to give guidance to:

- the Notified Bodies (NB) of the type of content expected of the Notified Body Design Dossier Reports of Medical Device manufacturers to ensure manufacturer's conformance to the relevant Directive
- the Assessors of the Designating Authorities (DAs) on the content expected in the Notified Body's Design Dossier Report

2 Scope

2.1 AIMD 90/385/EEC, MDD 93/42/EEC, as amended by 2000/70/EC and 2001/104/EC, IVD 98/79/EC, and TSE 2003/32/EC

2.2 Design Dossier Review: Examination of the design of the product is required to be carried out by the Notified Body in:

- the Active Implantable Medical Device Directive 90/385/EEC section 4 of Annex II and section 4 of Annex 3 (design dossier related part of type-testing examination)
- the Medical Devices Directive 93/42/EEC section 4 of Annex II and section 4 of Annex III (design dossier related part of type-testing examination)
- the in-vitro diagnostics Medical Device Directive 98/79/EC section 6 of Annex III, section 4 of Annex IV, and section 4 of Annex V (design dossier related part of type-testing examination)
- the "TSE Directive" 2003/32/EC Article 5

3 General

3.1 The NB must examine the application for examination of the design dossier and, if the product conforms to the relevant provisions of the Directive, issue the application with an EC design-dossier certificate.

3.2 The NB should ensure that the manufacturer's application adequately describes the design, manufacture and performance of the device, allowing assessment whether the product conforms to the requirements of the Directive. The NB should comment on the adequacy of the following:

- general description of the product
- design specifications, including a description of the solutions adopted to fulfill the essential requirements
- systematic measures/procedures used for the design process and techniques used to control, monitor and verify the design of the device (not applicable for 90/385/EEC Annex 3, 93/42/EEC Annex III and 98/79/EC Annex V)

3.3 The NB should review the manufacturer's use of harmonised standards. If other standards have been used in place of harmonised standards or where harmonised standards do not exist, the NB should review their suitability and applicability to the essential requirements.

3.4 The NB may require the application to be completed by further tests or proof to allow assessment of conformity with the requirements of the Directive.

3.5 The NB review should ensure that the dossier report clearly identifies the documentation (revision date and reference to the location) for the device under evaluation. The report should demonstrate the NB's review of the conformity of the manufacturer's design dossier to the relevant Directive.

3.6 The report must contain the data needed for identification of the approval of the design, where appropriate, a description of the intended purpose of the product, and must clearly state the conclusions of assessment, i.e. the final conclusion of the overall conformance of the device with the requirements of the applicable Directive (including the Essential Requirements) and the Harmonized Standards.

To issue the EC design-examination certificate (see NBOG BPG 2006-2 "Certificates issued by Notified Bodies" [1]) data are needed for "identification of the approved design, devices (mark and model) covered by the certificate, preferably including a description of the intended purpose, utilizing the GMDN code". For ease of reference these data and any conditions of validity should be part of the report.

3.7 Correspondence relating to the management of the key concerns or issues should be kept on file.

3.8 For changes of the approved design, see separate guidance.

4 Content

4.1 The following describes a minimum NB report content of a Medical Device manufacturer's design-dossier examination.

Note: The headings are based on the Essential Requirements and partly aligned with GHTF SG1 N11 : 2008 Summary Technical Documentation for Demonstrating Conformity to the Essential Principles of Safety and Performance of Medical Devices (STED) [2].

4.2 The following table describes typical sections a design-dossier examination report should consist of. Reports structured to these sections will facilitate the presentation of the design-dossier examination in a consistent and precise manner. This is especially helpful when references to other design-dossier examinations need to be made or in cases when certificates should be transferred. Another advantage is for situations, when design-dossier examination reports are requested by Competent Authorities.

4.3 Within the sections concerning the essential requirements the NB has to give a clear statement, if the device meets the corresponding applicable requirements. Non-applicable requirements need to be noted and justified as such. Also the method used to demonstrate conformity with the respective requirement should be described.

Minimum Content for a Design Dossier Review Report

Manufacturer's Details
Manufacturer
Address of Company
Product Family of Device
Applicable Directive and Annex
Scope
GMDN code, where available

Data relating to Application and NB Review

The report should contain data concerning the application and the NBs review, in particular:

- purpose of examination (Directive and Annex)
- timing (date of application, date of receipt(s) of documentation)
- submitted documents, documentation reviewed (e.g. date of issue, revision)
- names of NB reviewer; internal and external experts involved in the assessment, together with details of aspects assessed by each
- date and signature of the responsible reviewer(s)

Device Description and Product Specification

The NB should confirm that the product description and the intended use, which the manufacturer intends to use to identify the device when placed on the market, are sufficiently detailed and accurate and that the design/product specifications meet the applicable regulatory requirements. The NB should confirm that the device falls under the medical device directive. Any particular performance claims or product benefits claimed should be verified by adequate clinical data or design testing during the NB assessment of the technical documentation.

The report should clearly indicate, which features, dimensions and/or performance attributes of the device including variants and accessories are covered by the examination.

Where relevant, references to similar or previous generations of the device and their design-dossier examinations can be used if those are still state-of-the-art. For renewal of certificates see separate guidance for further detail.

Classification

The NB should review the manufacturer's selection of appropriate classification, classification rule and conformity assessment route. The NB should assess that the justification for the device classification is sufficiently robust in particular in borderline cases, especially in the case of combination products.

Requirements regarding Manufacturing

The NB should review the information provided by the manufacturer regarding the manufacturing processes. The application should contain information to allow the NB reviewer to obtain a general understanding of the manufacturing process (e.g. process flow chart) showing an overview of production, assembly, final product testing, and packaging of finished medical device. The NB should state which design and manufacturing sites are included in the examination and, where appropriate, reference the relevant certificates related to the quality systems.

Areas requiring particular attention by the NB are:

- special processes, e.g. sterilization issues
- critical materials, components

  For devices containing medicinal substances, human blood derivatives or utilizing material of animal origin, see also section "Other Applicable Directives and amendments" below.

Requirements regarding Design and Construction

Based on the essential requirements checklist normally provided by manufacturers, the NB should review if the device meets the requirements given in Annex I Section II.

The Essential requirements checklist normally contains whether a requirement applies to the device and if not, why not, the method(s) used to demonstrate conformity with each requirement that applies, reference to the method(s) employed and documents to demonstrate the evidence of conformity with each method used. The NB should review verification and validation studies undertaken to make a conclusion whether conformity with Essential Requirements is demonstrated.

Areas requiring particular attention by the NB are:

- material properties – chemical, physical and biological

  For biocompatibility, see section Pre-Clinical Evaluation below.

  For devices containing medicinal substances, human blood derivatives or utilizing material of animal origin, see also section "Other Applicable Directives and amendments" below.

- stability

- sterilisation validation, infection risk

  Where the device is supplied sterile, detailed information on sterilisation validation (initial and overall programme) including bioburden testing, pyrogen testing, testing for sterilant residues, if applicable, and packaging validation

- handling suitability for self-test devices/Use in combination with other devices

- measuring function

- radiation/electrical safety - software verification and validation

- origin and conditions of collection of tissues of human origin should be available (98/79/EC only) for NB review and the conclusions should be recorded

- labelling and Instructions for use

  The NB should review the content of final or proposed wording, it's conformance with the requirements of the directive, the applicability of the content to the device/intended use and that any claims, cautions, warnings etc. are consistent with or supported by the data available. The conclusions of the outcome of this assessment should be recorded. The NB should also review whether the manufacturer has fulfilled the language requirements of the countries where the device is to be placed on the market.

The NB should review the manufacturer's key laboratory studies and testing. The results obtained and conclusions made should be reviewed and compared against the design specifications and performances claimed.

Any key assumptions made as the basis for acceptance / verification should be challenged by the NB and the outcome of the challenge shall be recorded.

The NB reviewer shall confirm that the validation programme and the results obtained are consistent with all the claimed properties and/or intended uses and conform to the applicable essential requirements.

Pre-Clinical Evaluation

The NB should assess the validity of pre-clinical evaluation. The NB should confirm that the documentation provided by the manufacturer contains:

- a list of all materials in direct or indirect contact with the patient or user, including the concentration of the materials and indication on particle size

- detailed information on biocompatibility testing and biological evaluation and must clearly show the suitability, safety, and, if necessary, biocompatibility of all materials used (for biocompatibility testing, please see EN ISO 10993)

- for medical devices using particles with at least one dimension below 100 nm: further characteristics as agglomeration state / aggregation, composition (e.g., chemical composition and structure), particle size / size distribution, purity/impurity, shape, solubility (hydrophobicity, liposolubility, water solubility), stability, surface area, surface chemistry, surface charge, coating characteristics
- detailed information on any studies in animal models, i.e. study objectives, methodology, results, analysis, and conclusions including rational and limitations for selection of the model(s)
- detailed information on any simulated use testing

The NB reviewer should assess the adequacy and validity of the documentation supporting the preclinical evaluation.

Clinical Evaluation/Performance Evaluation

The NB should assess the validity of the clinical evaluation and should verify that the device has met the claimed performance as outlined. The documentation provided by the manufacturer should contain all necessary data according to MEDDEV 2.7.1 [3] and / or GHTF SG 5 documents [4, 5] to allow for a proper review of the clinical evaluation done by the manufacturer.

The NB reviewer should assess the clinical investigation data and / or the literature review assembled and the validity of conclusions drawn by the manufacturer.

The Design Dossier Report should include

- assessment of the clinical safety and performance
- conclusion (the NB should justify and document each step of the decision making process; see [3] for further explanation)

Other Applicable Directives and amendments

The NB should ensure that the manufacturer has addressed all other applicable supplementary Directives and Commission Decisions.

i) For devices which incorporate medicinal products acting in a manner ancillary to that of the device, the Notified Body shall identify the devices and, in consideration of the application, detail the consultation with the relevant authority for medicinal products. The Notified Body shall ensure its final decision is communicated to the authority consulted. A description of the consultation process is given in MEDDEV 2.1/3 [6].

ii) Where a device incorporates, human blood derivatives, the notified body shall seek a scientific option from the European Medicines Agency (EMEA) on the quality and safety of the derivative. The outcome of the EMEA review shall be recorded.

iii) For devices containing tissues of animal origin: the Notified Body shall conduct an additional review of the Medical Device to the Commission Directive 2003/32/EC using guidance document MEDDEV 2.11/1 [7].

Risk Analysis and Risk Management

The documentation provided by the manufacturer should contain the risks identified during the risk analysis/management process and a description of how these risks have been controlled to an acceptable level.

The documentation should demonstrate that the medical benefit outweighs all risks combined.

The NB should

- challenge the robustness of the risk analysis and on-going risk management with respect to any assumptions made and the decisions taken, and check that the conclusions have been verified and the outcome should be recorded
- make a statement whether the solutions adopted by the manufacturer conform to safety principles, taking account of the generally acknowledged state of the art (see also MDD Annex I I 2.)

the characteristics and performance will not be adversely affected during transport and storage and lifetime (according to instructions and information provided by the manufacturer).

Review of Declaration of Conformity
The NB should check that the Declaration of Conformity is applicable to the products under review.

Post Market Surveillance
The NB should review the manufacturer's proposed Post Market Surveillance programme specified for this device, including details of any post market clinical follow up (see MEDDEV 2.12/2 [8]).

Summary of Review
The NB should identify any key issues that arose during the design dossier review and summarise the conclusions of the assessment. The NB reviewer should confirm that the total validation programme and the results obtained are consistent with all the claimed properties and/or intended uses and conform to the applicable essential requirements. The NB should state whether certification is recommended and the review should be signed and dated by the reviewer and approved by the appropriate manager, prior to issuance of the EC design-examination certificate.

4.4 For supplements arising from changes of the design or renewals of design-dossier examination certificates please see separate guidance.

Reference

90/385/EEC Annex 2 (4) and Annex 3 (4)

93/42/EEC Annex II (4) and Annex III (4)

98/79/EC Annex III (6) and Annex IV (4)

2003/32/EC Article 5

Sources

[1] NBOG BPG 2006-2 Certificates issued by Notified Bodies

[2] GHTF SG1 N11 : 2008 Summary Technical Documentation for Demonstrating Conformity to the Essential Principles of Safety and Performance of Medical Devices (STED)

[3] MEDDEV 2.7/1 Evaluation of clinical data – Guide for manufacturers and notified bodies

[4] GHTF SG5/N1R8 : 2007 Clinical Evidence – Key Definitions and Concepts

[5] GHTF SG5/N2R8 : 2007 Clinical Evaluation

[6] MEDDEV 2.1/3 Interface with other directives – Medical devices/ medicinal products

[7] MEDDEV 2.11/1 Application of Council Directive 93/42/EEC taking into account the Commission Directive 2003/32/EC for Medical Devices utilising tissues or derivatives originating from animals for which a TSE risk is suspected

[8] MEDDEV 2.12/2 Guidelines on Post Market Clinical Follow-Up

Keywords Conformity assessment, design dossier examination, report

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