1. (normative)  
   Mechanism design description (MDD) - DRD
   1. DRD identification
      1. Requirement identification and source document

This DRD is called from ECSS-E-ST-33-01, requirement 4.10a.

* + 1. Purpose and objective

The purpose of the mechanism design description (MDD) is to provide the customer with a comprehensive understanding of the mechanism design and functionality.

* 1. Expected response
     1. Scope and content

Introduction, references and terminology

The MDD shall contain a description of the purpose, objective, content and the reason prompting its preparation.

1. For example: “This document describes the functionality and design of the <name> mechanism for the <name> project.

The MDD shall list:

the model standard of the mechanism being described;

1. Examples are DM, EM, QM, and FM for which the definition is provided in ECSS-E-HB-10-02.

the list of documents providing additional subsystem design description;

any other applicable and reference documents to support the generation of the document.

The MDD shall include any additional definition, abbreviation or symbol used.

Mission and mechanism main functions

The MDD shall describe the mission and the role of the mechanism in achieving the mission.

The primary functions of the mechanism shall be described.

Key requirements

The MDD shall include the requirements that drive the selected mechanism concept.

1. Examples of such requirements are functional, operational, and imposed design solutions.

Functional principle

The MDD shall describe how the mechanism primary functions are broken down into their elementary functions.

1. For example, use functional tree.

Schematic functional elements should be added to the tree.

Detailed description of the mechanism

The MDD shall describe the mechanism detailed design, including the following:

product tree (sub assembly break down);

physical design of the mechanism in all configurations;

how each function is achieved;

protection and redundancy implementation;

general assembly drawings with cross sections or equivalent;

interface descriptions (mechanical, thermal and electrical);

static and dynamic envelopes.

Performance and budgets

The MDD shall provide informative data with regard to performance, mass and power budgets.

1. This is provided for information only. The contractual values are provided in the verification files.
   * 1. Special remarks

None.