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Template No.

 CEMILAC\_SYSGP\_PBS\_10

 **PRODUCT BREAKDOWN AND WORK BREAKDOWN STRUCTURE FOR CERTIFICATION**

 **for <LRU/SYSTEM Name>**

**for**

 **<Platform Name>**

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| <DESIGN AGENCYLOGO> | **Document No.** |  |
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| **Title:** | **Project/System :** |
|  **PRODUCT BREAKDOWN AND WORK BREAKDOWN STRUCTURE FOR CERTIFICATION****for** **<LRU/SYSTEM Name>for <Platform name>** | < Project/System Name> |
| **LRU/System Part No.**  |
| <No.> |
| **Critical Level** |
| <A/B/C/D/E> |
|  | **Name & Designation** | **Signature** |
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|  **<Design Firm Name & Address>** |

**Disclaimer:**

This document is a guidance document. Applicable section / table rows may be considered. Any additional details may be added. Any not applicable section/ table rows may be deleted. The template is very general and vary with process to process followed by Development Agency. The document may be fine-tuned with the TAA for finalization.

**Product Breakdown and Work breakdown Structure for Certification**

Certification is a multi-disciplinary system engineering process. It is important to plan certification activities upfront in the project for smooth and concurrent progression. In order to plan certification activities, the product Breakdown and Work Breakdown structures of the projects are required. The PBS and WBS will help in the following:

1. Understand the total work involved in the project
2. Know the list of development partners with defined boundaries and authorisation to apply for & receive certificates
3. Allocate the work to RCMAs based on the domain and skill set
4. Draft the certification plan
5. Tailoring of standards

**Product breakdown structure**

A detailed breakdown of the System into Subsystems, LRUs (including CSCI/HWCI). The PBS also includes the test rigs and ATEs. A sample representation of the PBS is given below.

|  |  |  |  |
| --- | --- | --- | --- |
|  | System Nomenclature | : |  |
|  | System Part Number | : |  |
|  | Platform(s) | : |  |
|  | Primary Design Agency (Main Contractor) | : |  |
|  | Aircraft Integration & Aircraft Ground Testing Agency | : |  |
|  | Aircraft Flight Testing Agency | : |  |
|  | Any other relevant details | : |  |

**Product Breakdown Structure of the complete system**

**Indigenously Developed Systems:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl.No.** | **LRU/Part Name** | **Part No.** | **Design agency** | **Development partner (if outsourced)** | **IP Holder** | **Govt QA agency** | **Production Agency** | **Sw Design agency** | **Firmware Design agency** |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

**Previously developed Indigenous Systems re-used in the present project**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl.No** | **LRU/ Part Name** | **Part No.** | **Previous project & platform** | **Certification status in previous project** | **Re-use level (Hw/Sw/ Both)**  | **Modifications required for adaptation (Hw/ Sw/ Both/ None)** | **Original design agency**  | **IP Holder** | **Modification agency** |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

**Indigenous Commercial Off the Shelf Items:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl.No** | **LRU/ Part Name** | **Part No.** | **Design Firm (IP holder)**  | **Certification status**  | **Already in Use in any Indian Military/ Civil platform?** | **Any Customisation required for Present Application?** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

**CSE/CFE/BOI:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl.No** | **LRU/ Part Name** | **Part No.** | **Design Firm (IP holder) & Country of origin** | **Certification by Airworthiness authorities**  | **Category of product (CSE/CFE/BOI)** | **Details, if already in Use in any Indian Military/ Civil platform** | **Any Customisation required for Present Application?** |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

Note 1: PBS shall be comprehensive by including every part that needs to be separately certified. Please include any interconnecting cable looms, supplementing parts (standard/BOI/CSE) being delivered along with the system. Physical & Logical connectivity block diagrams and context diagrams may be attached.

**Test Rigs, Simulators and Ground Equipment Required**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Test Rig / Ground equipment Name** | **Utilisation Phase (R&D/ Production/ Delivery to services)** | **Hardware Design agency** | **Software Design agency** | **Firmware design agency** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**Work Breakdown Structure**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl.No.** | **LRU Name & Part No.** | **Work share of Main contractor** | **Work share of sub-contractor/ Design agency** | **Work share of Development partner** | **Workshare of Production agency** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Note 2: Overall responsibilities of these agencies may be brought out at top level bullet points. It may also be indicated which agency will be applying for certificate.

Note 3: Initially there can be a few TBDs, which later need to be confirmed before starting of certification activities for that product, and PBS/WBS should be re-issued.

Note 4: Certificate will be issued to the IP Holder or the main contractor as decided in the Certification Plan.