USING THE ESCC SPECIFICATION SYSTEM

ESCC Basic Specification No. 20000

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DOCUMENTATION CHANGE NOTICE

(Refer to https://escies.org for ESCC DCR content)

DCR No.	CHANGE DESCRIPTION
838	Specification upissued to incorporate editorial changes per DCR.

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1 PURPOSE

This specification provides a single starting point for users of the ESCC Specification System. It identifies additional starting points within the specification system for the major topics encompassed by the system.

2 SCOPE

This specification provides an overview of the ESCC Specification System. It provides pointers to where to find the information and/or requirements with regard to:

- Obtaining specifications.
- Adding new specifications or changing specifications.
- Qualifying components.
- Procuring components.
- Dealing with non-conformances.
- Understanding and/or participating in the operation of the broader ESCC System.

3 APPLICABLE DOCUMENTS

The following ESCC Specifications form part of, and shall be read in conjunction with, this specification.

– Nil.

4 DEFINITIONS AND ABBREVIATIONS

4.1 DEFINITIONS

None.

4.2 ABBREVIATIONS

The following abbreviations are used in this document:

Charter	Founding Act and Charter of the European Space Components Coordination
CTB	Component Technology Board
EEE	Electrical, Electronic and Electro-mechanical
EPPL	European Preferred Parts List
ESCC	European Space Components Coordination
ESCIES	European Space Components Information Exchange System
Executive	The ESCC Executive
PSWG	Policy and Standards Working Group
QML	Qualified Manufacturers List
QPL	Qualified Parts List
SCSB	Space Components Steering Board
User	A user of the ESCC Specification System

5 INTRODUCTION

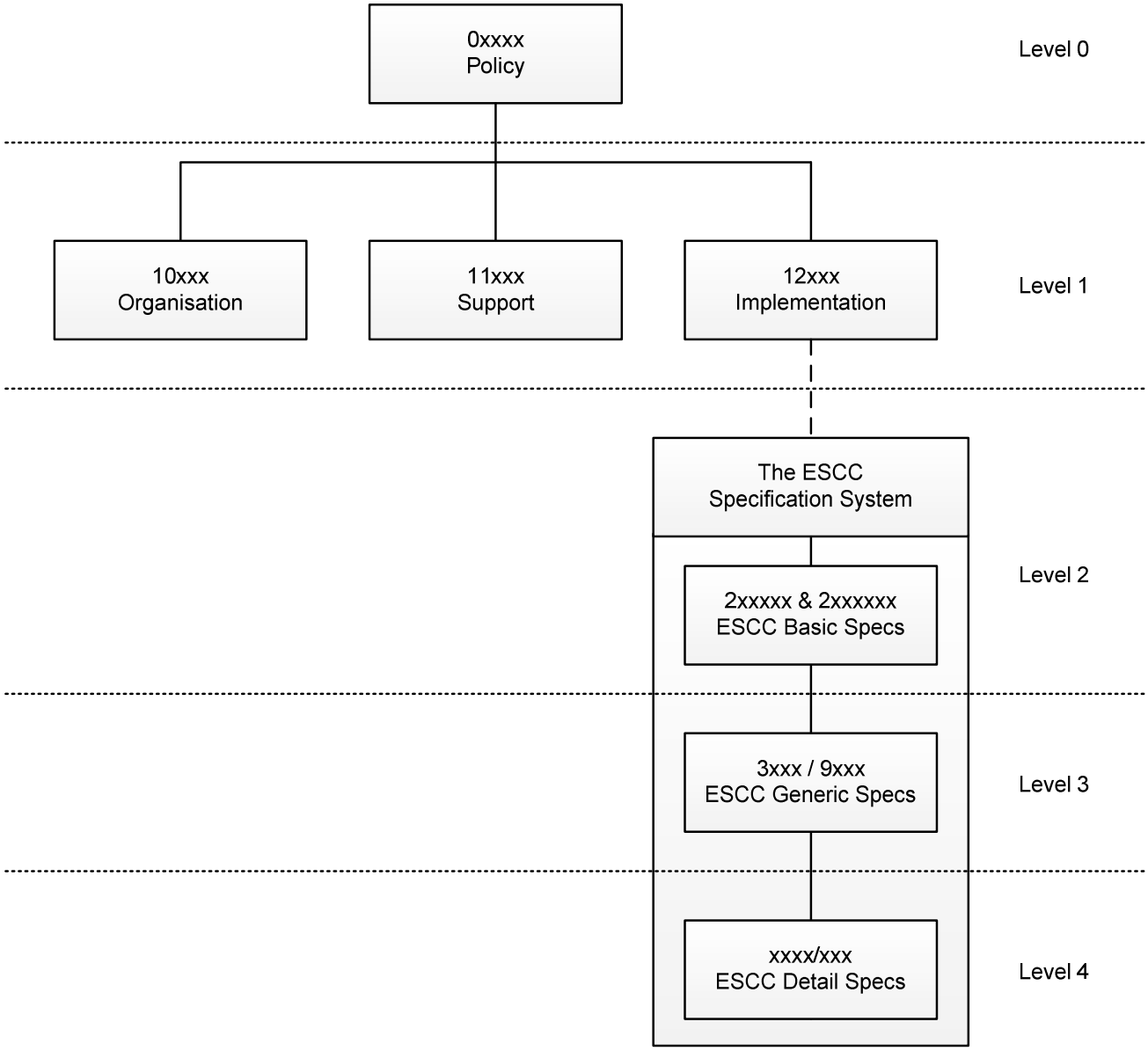
The ESCC System is a European system to coordinate activities amongst members so as to ensure the availability of EEE parts for European Space programmes. Members participate in the Space Components Steering Board and its organisational bodies. The ESCC activities are governed by a Charter and supporting procedural documents. One major result of the coordination activities is the ESCC Specification System. This is a self-standing system which provides for:

- the technical specification of EEE parts.
- methodologies for component evaluation and qualification.
- provision of necessary testing methods.
- quality assurance provisions.
- operational provisions.

The operational provisions result in the system being available freely for use in a supplier/customer relationship on a world-wide basis. The evaluation and qualification provisions are applicable to components of European manufacture and the results are reflected in a published QPL and QML. The technical specifications represent Space user requirements and are not component vendor specific. There are sometimes multiple qualified sources for a component specified in a particular ESCC specification.

The ESCC Documentation System comprises Documents and Specifications organised in five levels, 0 to 4. Documents in levels 0 and 1 outline the ESCC System and its operation. Specifications in levels 2, 3 and 4 provide the technical information necessary to qualify and procure components. They also provide the administrative information necessary for component manufacturers and component users to use and interact with the System. Users of the Specification System do not need to refer to level 0 and 1 Documents; however they are made publicly available for information purposes. This specification is therefore aimed at users and provides the information necessary to find the appropriate starting point in the specification system for any of the major topics the system encompasses.

The ESCC documentation architecture is illustrated as follows:



6 INFORMATION SOURCES

ESCC operates two web sites. The first supports the promotion of the System and provides general information about all ESCC activities.

The web address is https://spacecomponents.org.

The second web site supports another major result of ESCC activities which is a space components information exchange system, ESCIES. In this, registered companies and organisations contribute data to create a total data resource for all registered users. As a part of this data collection and available publicly, the issued ESCC Specifications are published together with the QPL and QML and a catalogue of issued specifications, REP001, which is suitable for download and printing.

The web address is https://escies.org.

7 ESCC POLICY AND OPERATION

The starting point for understanding the ESCC System is the Charter, ESCC 00000. This in turn leads to the operational documents in Level 1 of the documentation architecture. These are generally written as procedures crossing organisational boundaries to map an ESCC process from start to finish. Thus, for example, the way the ESCC organisational bodies (SCSB, PSWG, CTB and Executive) interact in managing an annual qualification programme is described in a number of procedures commencing with ESCC 12100. However, again as an example, a component manufacturer wishing to qualify a product does not need any of this information as explicit instructions may be found in the appropriate Basic Specification including the ESCC interfaces for the manufacturer. Following the Basic Specification the manufacturer agrees a qualification programme with ESCC, carries it out and in due course receives a certificate and is added to the QPL. The internal ESCC processes are described in the Level 1 procedures but remain transparent to the manufacturer.

The published ESCC Documents in Level 0 and 1 are listed in the REP001 and may be found on the ESCC web site.

8 ESCC SPECIFICATIONS

8.1 AVAILABILITY

All ESCC Specifications are freely available from the ESCIES web site. In addition they are available as a free subscription on CD-ROM to qualified subscribers. Subscription details may be found on the ESCIES web site.

8.2 ADDING OR CHANGING SPECIFICATIONS

When a user sees the need for a new specification or the need for a change to a published specification, the method to be followed is provided in Basic Specification No. 20800.

Documentation Change Request forms may be found on the ESCIES web site.

9 QUALIFICATION

The ESCC System provides for three equivalent approaches to qualifying individual components of European manufacture:

- component qualification.
- capability approval.
- technology flow qualification.

A European component manufacturer who identifies a Space market may apply to be qualified. The application may be submitted to the ESCC Executive. The Executive will in turn process the application so that it is considered by ESCC. ESCC will reach a decision as to whether or not there is sufficient user interest to justify the commitment of Executive resources to support the qualification programme and the subsequent maintenance. When the ESCC deliberations are completed the Executive will advise the applicant manufacturer of the decision. Application requirements may be found in the pertinent Basic Specification for the qualification approach to be proposed. (An applicant manufacturer, unfamiliar with the ESCC Specification System, is advised to contact the Executive Secretariat prior to preparing an application.)

All three approaches involve an extensive evaluation phase and a subsequent qualification testing phase. Which approach is the most appropriate depends on the nature and range of the components being considered for qualification.

Irrespective of the approach or the technology involved a manufacturer must have, or put in place during the evaluation phase, an appropriate infrastructure. This means that from raw materials and piece part procurement through to the packing and shipping of the qualified component there must be a quality management system in place. The requirements for this are described in Basic Specification No. 24600 supported by Basic Specifications Nos. 21500, 22700, 22800 and 24900. In addition Basic Specification No. 20200 describes the audit process that a manufacturer will be subjected to in the evaluation phase and provides a fundamental check list as an aid to the manufacturer in ascertaining his readiness to proceed.

Qualification is always to the requirements of the pertinent Generic Specification, as far as the family of components is concerned, and to a specific Detail Specification for the component in question. By referring to ESCIES or to REP001 the appropriate Generic may be selected. When a suitable Generic does not exist the steps to follow are provided in Basic Specification No. 20800.

Where the specific component to be qualified is not already described by a Detail Specification, or where the existing specification requires updating, the method to follow is provided in Basic Specification No. 20800.

The pertinent Generic and Detail Specifications, read in conjunction, will identify, directly or indirectly, all required Basic Specifications.

The evaluation of components is described in Basic Specification No. 22600. This specification is supported by a number of ancillary specifications which are component family specific to provide outline evaluation test plans.

9.1 COMPONENT QUALIFICATION

The starting point for this is Basic Specification No. 20100

9.2 CAPABILITY APPROVAL
The starting point for this is Basic Specification No. 24300

9.3 TECHNOLOGY FLOW QUALIFICATION
The starting point for this is Basic Specification No. 25400

10 PROCURING COMPONENTS

The starting point is to identify the Detail Specification describing the required component. Most of these have a based on type description in the title and this is searchable in ESCIES. The specifications are also indexed in REP001 by Generic Specification and families and sub-families. Where there is not an existing Detail Specification for the component required, Basic Specification No. 20800 indicates how to proceed.

The availability of a component for which a Detail Specification exists may be established in several ways:

- Consultation of the EPPL in ESCIES.
- Consultation of the QPL and QML in ESCIES.
- Searching ESCIES for a history of previous usage.
- Checking the specification for a manufacturer specific appendix.

It may be noted that the existence of a Detail Specification implies that there was, at the time of original issue, an identified supplier for the component specified. Where a Detail specification covers a range of components or a number of variants it is possible that only a reduced selection are either preferred parts (EPPL), qualified parts (ESCC QPL or QML), or have ever been previously procured in a Space programme.

11 NON-CONFORMANCES

The ESCC non-conformance system is defined in Basic Specification No. 22800. It is mandatory for any qualified manufacturer to follow this procedure when a non-conformance or alleged non-conformance is brought to the attention of the manufacturer's ESCC Chief Inspector. The role of the Chief Inspector is defined in Basic Specification No. 24600.

In using the ESCC System for procurement there is a moral obligation on the procurer to raise problems with received components formally with the System. Thus for a customer in receipt of non-conforming qualified components the use of Basic Specification No. 22800 is advised. The ESCC non-conformance review board constituted to resolve a reported non-conformance has, inter alia, the responsibility of identifying the cause and preventing a future recurrence to the benefit of all future users.

The integrity of the non-conformance system is a key element in maintaining the validity of a manufacturer's qualified status.

12 ESCC FORMS

A number of ESCC specifications contain forms or reference to forms to support associated information transfer requirements. A number of these forms are provided on the ESCIES web site and in general forms will be progressively removed from specifications and provided instead on the web site. Wherever it is practical the forms will be made so as to support electronic completion and submission. More information may be found on the ESCIES web site.

13 ADDITIONAL INFORMATION

General guidance on using the ESCC Specification System and in participating in ESCC activities may be found on the ESCC and ESCIES web sites:

- https://spacecomponents.org
- https://escies.org

Apart from the feedback provisions on the web sites, specific questions may be addressed to the ESCC Executive Secretariat, for which the mailing address is:

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ESA/ESTEC (TEC-QES)
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