DOCUMENT CHANGE REQUEST

DCR number 905	Changes required for: General	Originator: Fernando Martinez
Date: 2015/04/17	Date sent: 2014/12/09	Organisation: ESTEC
Status: IMPLEMENTED		

Title:	Requirements for the Capability Approval of Electronic Component Technologies for Space		
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Paragraph:

9.4.2 [VALIDITY OF CAPABILITY APPROVAL] Conditions for validity

Original wording:

The following conditions for validity of capability approval shall be fulfilled:

– The manufacture of components to ESCC requirements shall be fully and only within the capability domain and strictly in accordance with the production and control documents approved by the ESCC Executive in the PID.

– Detailed records of each component type and test structure, including detailed information about each production lot, shall be available for the ESCC Executive review.

– On receipt of an alert from the ESCC Executive concerning the approved capability domain or a component type manufactured within the domain, the Manufacturer shall, as a matter of urgency, carry out the necessary investigations and inform the ESCC Executive of his findings and suggested corrective actions.

Proposed wording:

The following conditions for validity of capability approval shall be fulfilled:

- The manufacture of components to ESCC requirements shall be fully and only within the capability domain and strictly in accordance with the production and control documents approved by the ESCC Executive in the PID. In the event of specification changes occurring during the validity period of a Capability Approval, the ESCC Executive and the Manufacturer shall jointly agree any additional work necessary to maintain compliance with these amended specifications.

- Detailed records of each component type and test structure, including detailed information about each production lot, shall be available for the ESCC Executive review [unchanged]

- Any non-conformance detected to an ESCC requirement is dealt with in accordance with the requirements of ESCC Basic specification No. 22800

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Justification:

re-written in line with policy expressed in ESCC 20100 issue 4 Para. 7.2

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Paragraph:

9.5.1 Renewal after Lapse of Capability Approval
Original

Original wording:

Following the lapse of capability approval, a renewal of approval can be affected within a reasonable time period. Provided the Manufacturer can demonstrate that the original evaluation of the capability domain is still valid, this renewal procedure shall comprise a destructive physical analysis of sample test structures and/or components, a Manufacturer audit and a survey of test records generated in the lapse period. If this survey shows that the Manufacturer's data, equivalent to Testing Level 'B' and Lot Acceptance Level 1 are available and acceptable, the ESCC Executive may take such data into consideration for renewal of the capability approval. Where such data is not available or not acceptable, the testing of a limited number of test structures and/or components to Testing Level 'B' and Lot Acceptance Level 1 will be required for the renewal. Failure to satisfy the ESCC Executive regarding the validity of the original evaluation of a capability domain or component will necessitate a completely new capability approval..

Proposed wording:

Following the lapse of capability approval, a renewal of approval can be affected within a reasonable time period. Provided the Manufacturer can demonstrate that the original evaluation of the capability domain is still valid, this renewal procedure shall comprise a destructive physical analysis of sample test structures and/or components, a Manufacturer audit and a review of test records generated in the lapse period. If this review shows that the Manufacturer's data, equivalent to ESCC screening level and LAT1 or , the required Periodic Testing per the applicable Generic Specification is available and acceptable, the ESCC Executive may take

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such data into consideration for renewal of the capability approval. Where such data is not available or not acceptable, the testing (ESCC screening and LAT1 or Periodic testing as applicable) of a limited number of test structures and/or components to will be required for the renewal.
Failure to satisfy the requirements regarding the validity of the original evaluation of a capability domain or component will necessitate a completely new capability approval.

Justification:

re-written in line with policy expressed in ESCC 20100 issue 4 Para. 7.4.1

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Paragraph:

11.2 Records

Original wording:

The Manufacturer shall maintain detailed records of each production lot of a qualified component and/or test structure and these shall be readily available to the ESCC Executive. A record of all components found to be defective during testing by the Manufacturer shall be maintained.

When requested by the ESCC Executive the Manufacturer shall perform failure analysis to the depth necessary to identify such defects as due to design, workmanship or mishandling, misuse etc.

When requested by the Orderer the Manufacturer shall undertake similar failure analysis of components failing while in use. Any repetitive defect occurring during manufacture shall be brought immediately to the attention of the ESCC Executive by the Manufacturer; failure to do so may lead to suspension of capability approval

Proposed wording:

The Manufacturer shall maintain detailed records of each production lot of a qualified component and these shall be readily available to the ESCC Executive. A record of all components found to be defective during testing by the Manufacturer shall be maintained.

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When requested by the ESCC Executive, the Manufacturer shall perform failure analysis to the depth necessary to identify such defects as are due to design, poor process control, workmanship or mishandling, misuse, etc.

When requested by a customer, the Manufacturer shall undertake similar failure analyses of components failing while in use. Any repetitive defect occurring during manufacture shall be brought immediately to the attention of the ESCC Executive by the Manufacturer. Failure to do so may lead to loss of qualification approval.

Justification:

re-written in line with policy expressed in ESCC 20100 issue 4 Para.10.2

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Paragraph:

6.2 PID

Original wording:

A PID for the capability domain to be approved shall be prepared by the Manufacturer to the satisfaction of the ESCC Executive. In terms of content, lay-out and configuration control the PID shall fulfil all requirements of ESCC Basic Specification No. 22700.

Proposed wording:

A PID for the capability domain to be approved shall be prepared by the Manufacturer to the satisfaction of the ESCC Executive. In terms of content, lay-out and configuration control the PID shall fulfil all requirements of ESCC Basic Specification No. 22700.

The methodologies agreed for Capability Approval and Extension of Capability Approval shall be documented in the PID or in a manufacturers procedure referenced in the PID

Justification:

re-written in line with policy expressed in ESCC 20100 issue 4 Para.8 and Para.9

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Paragraph:

11.3 Alert procedure

Original wording:

The alert procedure is a procedure for urgently notifying the ESCC Executive, and other interested parties, for consideration of the impact on capability approval, of any problem concerning a test, material, design, part or process which could result in unsafe conditions or adversely affect a component's reliability. When any such problem is brought to the attention of a Manufacturer, he shall, as a matter of urgency, carry out the necessary action or investigation. Information about the problem, together with the
Manufacturer's response, shall be circulated, as and if required, to any organisation using the qualified components.

Proposed wording:

The purpose of the ESA Alert procedure (https://alerts.esa.int) is to expediently provide pertinent information and suggested corrective actions about any problem concerning a test, material, piece part and process which could result in unsafe conditions or adversely affect a component's reliability to its users. The need to apply this procedure may arise in the course of resolving a nonconformance and when any such problem is brought to the attention of a Manufacturer by another party. The Manufacturer shall, as a matter of urgency, carry out the necessary action(s) and investigation(s) in support of the ESCC Executive and the ESA Alert system.

Justification:

re-written in line with policy expressed in ESCC 20100 issue 4 Para.10.3

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Paragraph:

9.4.3 [VALIDITY OF CAPABILITY APPROVAL] Extension of Capability Approval Validity

Original wording:

The capability approval validity may be extended for a further period of two years if:

- All changes to the PID, if any, have been approved by the ESCC Executive

- All test and test sequences as defined in Section 8 for components and test structures have been successfully performed during the period

If components have been manufactured and tested within the capability domain, having a complexity covering the domain boundaries or part of them, these tests may be substituted for corresponding tests in the capability programme

All the relevant documentation including records of components manufactured shall be reviewed by the ESCC Executive and if found acceptable the ESCC Executive will formally request approval of ESA for the extension of the capability approval of the domain.

Proposed wording:

The capability approval validity [...]
[...] for corresponding tests in the capability programme.

REMOVE THIRD EXISTING PARAGRAPH (all the relevant documentation...)
ADD THE FOLLOWING:

The Manufacturer shall ensure that records and test data are made available to the ESCC Executive in due time to avoid a lapse of qualification.

Failure to successfully complete the tests by the required date shall result in:
- the Manufacturer raising an ESCC non-conformance level 2 in accordance with

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ESCC Basic Specification No. 22800. The NRB may recommend to the ESCC Executive to extend the validity of the current certificate for up to 6 months without issuing a new certificate and without changing the QPL or QML entry. This reduces the validity period of the subsequent certificate by the same number of months.
- unless determined otherwise by the ESCC NRB, immediate loss of qualification.

If qualification status is lost in this manner then the requirements pertaining to “Renewal after Lapse of Capability Approval” will apply to reestablishing the qualification.

The ESCC Executive will review the reports and test data, including nonconformance reports and failure analysis records, collected and presented in support of Capability Approval extension and determine whether the data package presented complies with the ESCC specifications, including approved changes thereto, current at the date of submission of the request for approval extension. If the results of the review are satisfactory, the ESCC Executive will formally request the approval of ESA for the extension of Capability Approval.

Where ESA approves the request, the qualification validity will be extended for a further period of up to two years and the Manufacturer will be provided with a new certificate of qualification and the corresponding entry will be updated in the ESCC QPL or QML.

The new certificate of qualification will bear the serial number of the original certificate supplemented with a letter suffix commencing with A for the first renewal, B for the second etc. (Letters I, O and X will not be used.)

Justification:

re-written in line with policy expressed in ESCC 20100 issue 4 Para. 7.3

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Paragraph:

9.5 Lapse of Capability Approval

Original wording:

A capability approval shall be considered to be lapsed from the day following the expiry date of the existing capability approval certificate, if a certificate extending the approval has not been issued.

When a capability approval has lapsed, all components manufactured in the period from the lapse date until the granting of a capability approval extension or requalification shall be considered as unqualified and shall not bear the ESCC Qualified Components Symbol.

Proposed wording:

A capability approval shall be considered to be lapsed from the day following the expiry date of the existing capability approval certificate, if a certificate extending the approval has not been issued.

When a capability approval has lapsed, unless otherwise agreed by an ESCC MRB, all components manufactured in the period from the lapse date until the granting of a capability approval extension or requalification shall be considered as unqualified and shall not bear the ESCC Qualified Components Symbol.

The corresponding entry in the QPL will be removed in the issue following the lapse of Capability Approval

Justification:

re-written in line with policy expressed in ESCC 20100 issue 4 Para. 7.4

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Paragraph:

11.2

Original wording:

The Manufacturer shall maintain detailed records of each production lot of a qualified component and/or test structure and these shall be readily available to the ESCC Executive. A record of all components found to be defective during testing by the Manufacturer shall be maintained.

When requested by the ESCC Executive the Manufacturer shall perform failure analysis to the depth necessary to identify such defects as due to design, workmanship or mishandling, misuse etc.

When requested by the Orderer the Manufacturer shall undertake similar failure analysis of components failing while in use. Any repetitive defect occurring during manufacture shall be brought immediately to the attention of the ESCC Executive by the Manufacturer; failure to do so may lead to suspension of capability approval.

Proposed wording:

The Manufacturer shall maintain detailed records of each production lot of a qualified component and/or test structure and these shall be readily available to the ESCC Executive. A record of all components found to be defective during testing by the Manufacturer shall be maintained.

When requested by the ESCC Executive the Manufacturer shall perform failure analysis to the depth necessary to identify such defects as due to design, workmanship or mishandling, misuse etc.

When requested by the Orderer the Manufacturer shall undertake similar failure analysis of components failing while in use. Any repetitive defect occurring during manufacture shall be brought immediately to the attention of the ESCC Executive by the Manufacturer; failure to do so may lead to suspension of capability approval.

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[NEW}: Any repetitive defect occurring during manufacture shall be brought immediately to the attention of the ESCC Executive by the Manufacturer. Failure to do so may lead to loss of Capability Approval

Justification:

re-written in line with ESCC 20100 issue 4 Para. 10.2

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Paragraph:

9.4.1 [VALIDITY OF CAPABILITY APPROVAL] General

Original wording:

2nd paragraph:

A capability approval established in accordance with this specification, and the relevant ESCC Basic Specification No. 243XXXX shall be valid for two years from the date of certification, or for such period as determined by ESA

Proposed wording:

modified 2nd paragraph:

A capability approval established in accordance with this specification, and the relevant ESCC Basic Specification No. 243XXXX shall be valid for two years in consecutive increments from the date of certification, or such lesser period as determined by ESA as advised by the ESCC Executive. See also Para. 9.4.3 below. Listing in the QPL shall be sufficient evidence for the validity of Capability Approval

Justification:

re-written in line with ESCC 20100 issue 4 Para. 7.1

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Paragraph:

9.5.2 Notification of lapse of Capability Approval

Original wording:

Proposed wording:

REMOVE PARAGRAPH COMPLETELY

Justification:

re-written in line with policy expressed in ESCC 20100 issue 4

Attachments:

N/A

Modifications:

additionally in the first sentence of section 11.2 maintain 'and/or test structures'

Approval signature:

Date signed:

2015-04-17