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Space product assurance

Nonconformance control system

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Foreword

This Standard is one of the series of ECSS Standards intended to be applied together for the management, engineering and product assurance in space projects and applications. ECSS is a cooperative effort of the European Space Agency, national space agencies and European industry associations for the purpose of developing and maintaining common standards.

Requirements in this Standard are defined in terms of what shall be accomplished, rather than in terms of how to organize and perform the necessary work. This allows existing organizational structures and methods to be applied where they are effective, and for the structures and methods to evolve as necessary without rewriting the standards.

The formulation of this Standard takes into account the existing ISO 9000 family of documents.

This Standard has been prepared by the ECSS Q-20-09 Working Group, reviewed by the ECSS Technical Panel and approved by the ECSS Steering Board.

This version B cancels and replaces ECSS-Q-20-09A.

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Scope

This Standard defines the control system for nonconformances related to any product, including EEE components nonconformances, software problems and operational nonconformances and anomalies.

This Standard applies to all deliverable products and supplies, at all levels, which fail to conform to specification requirements and design baselines.

This Standard is applicable throughout

- procurement, production, qualification, integration and test phases,
- acceptance, delivery and transportation phases,
- launch preparation phase and flight or launch readiness,
- operational validation or qualification phase,
- operational phase, and
- refurbishment phase.

This Standard defines also requirements for the interfaces with company internal nonconformance reporting and processing.

Engineering changes are not subject of this Standard.

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Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this ECSS Standard. For dated references, subsequent amendments to, or revisions of any of these publications do not apply. However, parties to agreements based on this ECSS Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references the latest edition of the publication referred to applies.

ECSS-P-001	Glossary of terms
ECSS-Q-00	Space product assurance — Policy and principles
ECSS-Q-20	Space product assurance — Quality assurance
ECSS-Q-40	Space product assurance — Safety
ECSS-Q-60	Space product assurance — Electrical, electronic and electromechanical (EEE) components
ECSS-Q-80	Space product assurance — Software product assurance
ECSS-M-40	Space project management — Configuration management
ESA SCC 22800	EEE Nonconformance Control System

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Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purpose of this Standard, the terms and definitions given in ECSS-P-001 apply.

3.2 Abbreviated terms

The following abbreviated terms are defined and used within this Standard:

Abbreviation	Meaning
CIL	critical item list
COTS	commercial off-the-shelf
DJF	design justification file
EEE	electrical, electronic, electromechanical
FMECA	failure mode effect and criticality analysis
NCR	nonconformance report
NRB	nonconformance review board (formerly known as material review board or MRB)
QA	quality assurance
PA	product assurance
RAMS	reliability, availability, maintainability, safety
RFW	request for waiver
SCC	space component coordination
SPR	software problem report

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Nonconformance control system - basic requirements

4.1 General principles

a. The system shall provide for a disciplined approach to the identification and segregation of nonconforming items, the recording, reporting, review, disposition and analysis of nonconformances, the definition and implementation of corrective and preventive actions.

b. Special attention shall be paid to:

- corrective actions against root causes, to avoid recurrence for other products;
- prompt and effective communication between suppliers and customers;
- the prevention of nonconformance occurrence, from the analysis of nonconformance records and derived lessons learned.

c. The supplier shall document his implementation of the nonconformance control system.

4.2 Nonconformance classes

a. Nonconformances shall be classified as major or minor, based on the severity of their consequences, as defined in b. and c. below.
Classification of nonconformances is not based on their consequences on cost and schedule.

b. Major nonconformances shall be those which can have an impact on the customer's requirements in the following areas:

1. safety of people or equipment,
2. operational, functional or any technical requirements imposed by the business agreement,
3. reliability, maintainability, availability,
4. lifetime,
5. functional or dimensional interchangeability,

6. interfaces with hardware or software regulated by different business agreements,

and in the following cases:

7. changes to or deviations from approved qualification or acceptance test procedures,
8. project specific items which are proposed to be scrapped, and
9. for EEE components, in case of:
   (a) lot or batch rejection during manufacturing, screening or testing at the manufacturer's facilities, if the purchaser proposes:
   — to use as-is the rejected lot or batch, or
   — to continue processing, rework or testing, although the lot or batch does not conform to the specified requirements.
   (b) nonconformances detected after delivery from the manufacturer.

c. Minor nonconformances are those which by definition cannot be classified as major.

d. The following EEE discrepancies after delivery from the manufacturer may be classified as minor:
   — random failures, where no risk for a lot-related reliability or quality problem exists;
   — if the form, fit or function are not affected;
   — minor inconsistencies in the accompanying documentation.

e. In case of doubt, nonconformances shall be classified as major.

f. The consequences of several different minor nonconformances on the same item shall be evaluated for proper classification.

4.3 Nonconformance review board (NRB)

4.3.1 General

a. The NRB shall be the sole technical authority for the treatment of nonconformances occurring in the frame of a business agreement.

b. All NRB dispositions and decisions shall be made by consensus by all members.

c. In case of conflict, higher management levels shall be involved.

d. The independence of PA from the project management organization shall be maintained in accordance with ECSS-Q-00A, subclause 3.3.3.

4.3.2 Internal NRB

a. The supplier shall nominate and authorize the internal NRBs core members for the business agreement.

b. The responsibilities and authorities of each member shall be documented.

c. The internal NRB shall include, at least, core members from the following areas:
   - Project PA (chairman), and
   - Engineering.

d. The chairman shall nominate additional members, or experts, depending on the NCR subject.

e. The internal NRB shall be responsible for the correct application of this Standard and its proper interfacing with internal nonconformance reporting and processing.

4.3.3 Customer NRB

For major nonconformances (see 4.2) the participation of the customer in the NRB is mandatory:

a. As a minimum, the internal NRB shall be enlarged by
   - customer's PA representative (chairman), and
   - customer's engineering representative.

b. Also in this case, the chairman shall nominate additional members, or experts, depending on the NCR subject.
   The customer's representatives may, with the supplier's agreement, invite observers or consultants from higher customer level, depending on the impacts of the nonconformance.

4.4 Nonconformance dispositions

A basic disposition for a nonconforming item can be one of the following:

a. Return to supplier:
   This disposition only applies to nonconforming procured items.

b. Use "as-is":
   The item is found to be usable without eliminating the nonconformance.

c. Rework:
   The item is recoverable to conform completely to all specified requirements. By definition, rework is the re-application of the process as originally planned.

   Additional work shall be performed to prepare the item for the rework (e.g. removal of faulty work and cleaning). In no case should the result of earlier applied processes or the precondition for other processes to be applied later on, be affected.

d. Repair:
   The item is recoverable such that it fulfils the intended usage requirements although it does not conform to the originally specified requirements.

   The repair procedure shall be one of the following:

   1. Qualified or standard repair procedure:
      Those repair procedures which have been approved by the customer in advance for defined applications.
   2. Specific repair procedure:
      Those repair procedures which are prepared for the specific nonconformance and are approved by the NRB.

   Any repair procedure shall include the verifications needed to check the repair result.

e. Scrap:
   The item is not recoverable by rework or repair, for technical or economic reasons.

4.5 Interfaces with internal nonconformance reporting and processing

The supplier's internal reporting and processing of nonconformances shall:

a. not conflict with this Standard;

b. be open and visible to customer reviews;

c. not delay the processing of the nonconformance in accordance with this Standard.

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Nonconformance processing requirements

5.1 General

Nonconformance processing is summarized in the flow chart in annex A.

5.2 Immediate actions

a. When a nonconformance is detected, an immediate preliminary assessment shall be performed by the project PA representative to establish its extent and cause.

b. Based on this assessment the following actions shall be taken, as necessary, without delay:

   1. Provisions for the safety of the personnel and of the equipment.
   2. Prevention of unauthorized use of the nonconforming items, by marking and, unless otherwise determined by the PA representative, segregation until their disposition.
   3. Prevention of the recurrence of the nonconformances on similar or identical items under processing or testing at that time. This can require suspension of manufacturing or testing.

c. The following shall apply to the segregation of nonconforming articles:

   1. The supplier shall establish a clearly marked holding area for nonconforming items pending NRB disposition.
   2. Access to this area shall be limited to NRB members or personnel authorized by the NRB.
   3. Provisions shall be made to prevent unauthorized removal of any item.
   4. Items whose segregation in the holding area is not practicable shall be prominently identified.

5.3 Report and recording

a. After verifying that the nonconformance exists, it shall be reported on an NCR and submitted to the internal NRB.

b. The description of the nonconformance shall be clear, unambiguous and sufficiently detailed that it can be understood by personnel not involved in its detection.

c. The NCR reference shall be entered on relevant quality and manufacturing records related to the nonconforming item.

d. The NCR reference, together with key data, shall be entered on the nonconformance records (see clause 8).

5.4 Processing by internal NRB

5.4.1 NRB meeting

Immediately after the reporting of a nonconformance, the chairman shall convene the internal NRB.

5.4.2 Classification

After verification that the nonconformance is fully described and the NCR is filled in correctly, the internal NRB shall classify the nonconformance in accordance with the criteria defined in 4.2.

5.4.3 Analysis of causes and consequences

a. The internal NRB shall investigate the cause(s) of the nonconformance, or if necessary engage a separate group of experts for the investigation.

b. No physical operation of an irreversible nature shall be carried out on the nonconforming item without prior approval by the customer.
Non-destructive testing may be used, if the techniques involved have previously been approved by the customer.

c. The internal NRB shall analyse whether human error or poor workmanship are the primary or secondary cause for the nonconformance. In these cases, all related documents and the competence level of personnel shall be reviewed in order to prevent recurrence.

d. The investigation of the consequences of the nonconformance shall be supported, where appropriate, by dependability experts or by documentation such as FMECA, CIL, or DJF.

5.4.4 Disposition of minor nonconformances

a. The internal NRB shall dispose minor nonconformances in accordance with 4.4.
Unless otherwise stated in the business agreement, minor nonconformances need not be notified to the customer.

b. Minor nonconformances shall be included in the summary status report (see 7.3) and available to the customer, upon request, for the review of the correct application of classification criteria and appropriate processing.

5.4.5 Processing of major nonconformances

a. Major nonconformances shall be subjected to the customer NRB processing.

b. The supplier shall report major nonconformances to the customer within five working days of their detection, unless otherwise specified in the business agreement.

c. All the information defined as mandatory in the generic format in annex B shall be provided, including a proposed disposition.

5.5 Processing by customer NRB

5.5.1 Assessment of higher level impacts

a. The customer shall assess whether the requirements of the higher level customer are impacted.

b. In case of actual or suspected impacts, the customer shall notify his customer and involve him in the ensuing NRB.

5.5.2 Confirmation of causes and consequences

a. The customer NRB shall take into account the results of the internal NRB's investigations (see 5.4.3), and carry out complementary investigations, as necessary.

b. Failure analysis and other technical analyses shall be performed, if requested by the NRB, to assess the cause and effect of a nonconformance and to support its disposition.

c. Failure analysis shall be documented in reports to be approved by the NRB.

d. During the NRB meeting, the following points shall be presented and reviewed:

- the detailed circumstances of the nonconformance;
- the different analyses, tests or simulations performed to understand the cause of the nonconformance;
- the consequences of the nonconformance.

e. Before determining a disposition, the NRB shall adequately determine the causes and consequences of the nonconformance.

5.5.3 Disposition of major nonconformances

a. Major nonconformances shall be subjected to the dispositions defined in 4.4.

b. When determining a disposition, the NRB shall:

1. Consider all pertinent data and information related to the nonconforming item (e.g. alerts from other programmes, FMECA, hazard analysis, supplier records, and qualification test data).
2. Review records of any previous similar or identical nonconformances.
3. Assess the feasibility of the intended dispositions.
4. Assess the applicability of dispositions and corrective actions to existing and in -process items (including re-inspection and retest).
5. Assess the effect of the nonconformance on the requirements of the business agreement and on the intended use of the item and in particular whether the item is identified as critical.
6. Assess the need for raising an alert to other users of similar nonconforming items, and activate the related procedures established in the business agreement.

5.5.4 Request for waiver

a. A waiver is a written authorization to use or release a product which does not conform to the specified requirements.

b. Major nonconformance with the "use as-is" disposition are candidate for a request for waiver.

c. The need for a waiver shall be identified and recommended by the responsible NRB.

d. Unless otherwise specified by the business agreement, a separate request for waiver need not be requested for major nonconformances affecting only a unit with no impact on higher level requirements. In such a case the departure from the requirements may be processed through the NCR by the customer NRB with the involvement of contracts and programme management, where appropriate.

e. For follow-on production model of the unit, a “request for deviation” or a “contract change notice” may be requested by the NRB.

5.6 Corrective and preventive actions

a. The NRBs shall determine corrective actions to eliminate the cause(s) of the nonconformance and prevent any recurrence.
Typical corrective actions consist of, for instance, changes to tools, equipment, facilities, processes, materials, drawings, specifications, and procedures.

b. The NRB shall determine also preventive actions to avoid the occurrence of the nonconformance on similar items.
The disposition “use as-is” does not require any physical action on the nonconforming item to make it usable, but does require corrective and preventive actions.

5.7 Implementation of actions and nonconformance close-out

5.7.1 Implementation of actions

a. Disposition shall only be implemented by performing actions defined by the NRB and approved RFWs, if applicable.

b. Reworked and repaired items shall be re-submitted to all planned inspections and tests.
Repair can invoke additional inspection and tests, as defined in the applicable repair procedure (see 4.4 d.).

c. Items with “scrap” disposition shall be prominently identified and segregated from all other material within a bonded area under QA supervision.

d. A list of scrapped items which are finally disposed of shall be maintained and available.

e. All the performance and results of all actions related to a nonconformance shall be traceable to and from the associated NCR.

5.7.2 Nonconformance close-out

a. An NCR shall be closed-out only after:

1. All related actions have been performed and their results successfully verified. In case of long-term preventive actions, the NCR may be closed if evidence is provided that their handling, through an agreed management process, has been formally initiated.
2. All necessary inspections and tests have been performed, and their results verified and reported on or traceable from the NCR.
3. Related RFWs are approved.

b. NCRs shall be closed-out by an authorized PA representative of the supplier, by stamping and signing the NCR form.

c. After close-out, a copy of the NCR shall be sent to the customer(s) involved in its processing.

6

Special nonconformance control requirements

6.1 EEE components nonconformances

6.1.1 Applicability

a. This subclause 6.1 shall apply to all EEE components.

b. SCC qualified components or components under SCC qualification shall be processed in accordance with ESA/SCC 22800, prior to delivery to the purchaser.

6.1.2 Basic requirements

The basic requirements defined in clause 4 shall apply with the following addition:

The final customer shall be invited to the NRB meeting related to major nonconformances on EEE components.

6.1.3 Processing requirements

The requirements defined in clause 5 shall apply, with the following modifications:

a. The notification of a major nonconformance shall contain, as a minimum:
   - information concerning the history of the component affected (e.g. type, manufacturer, batch number, and selection programme),
   - description of the nonconformance, and exact conditions of occurrence,
   - the cause of the nonconformance, whether known or presumed, and
   - the possible stress caused to the neighbouring components.

b. If it is suspected that nonconforming items of the same batch or production have been released to other users, an alert shall be submitted to the final customer, in accordance with the procedures established by the business agreement.

6.2 Software nonconformances

6.2.1 Applicability

a. This subclause shall apply to software nonconformances. Software problems are treated according to ECSS-Q-80.

b. The requirements in this subclause shall be applicable to the following software products:

- on-board software,
- verification software (e.g. simulators, and test beds),
- mission control software (ground based), and
- support software for development of the above.

c. This subclause shall apply during software development, starting from successful software unit testing.

6.2.2 Basic requirements

The same basic requirements defined in clause 4 shall apply to software nonconformances, with the following modifications:

a. The dispositions defined in 4.4 shall be replaced by the following:
   - use “as-is”, when the software is found to be usable without eliminating the nonconformance;
   - fix, when the software product can be made fully in conformance with all specified requirements, by
     — correction of the software,
     — addition of software patches, or
     — re-design.
   - return to supplier, for procured software products (as COTS).

b. Software fixes shall be validated by appropriate regression testing.

6.3 Operational nonconformances and anomalies

6.3.1 Applicability

a. This subclause shall apply to nonconformances to stated requirements, deviations from approved procedures, deviations from expected behaviour and human errors detected during operations, starting from the first acquisition of the spacecraft signal.

b. The requirements in this subclause shall apply to the following items:
   - the flight segment,
   - the ground segment, including hardware, software, documentation and data, and
   - the mission products.

6.3.2 Basic requirements

6.3.2.1 General principles

a. The general principles defined in 4.1 shall apply.
   It shall be considered that operational nonconformances and anomalies can have impacts on several parties: the organization responsible for the operations (called the “operator” in the following text), the owner of the space system, the procurement agency of the space system, the suppliers of its elements and the customers of the mission products. The same organization may cover more than one of the above roles at the same time.

b. Taking this into account, the following principles shall apply:
   1. all parties involved shall define clear responsibilities, authorities and procedures for the processing of operational nonconformances and anomalies;
   2. the requirements for the mission products and the associated acceptance criteria shall be documented and agreed among the parties concerned, in order to allow the unambiguous identification of nonconformances.

3. although administrative work shall not hinder the immediate implementation of critical actions, all activities shall be recorded and controlled in accordance with the established procedures.

6.3.2.2 Classification

a. Operational nonconformances shall be classified in accordance with 4.2.

b. Operational anomalies shall be classified in accordance with the severity of their consequences on the space system and the mission products, and the importance of the affected function for the global performance of the system.

c. The criteria for classification of operational anomalies shall be agreed with the parties involved.

6.3.2.3 Nonconformance review board (NRB)

a. Based on the classification of operational nonconformances and anomalies, as defined in 6.3.2.2, the parties concerned shall agree:

- the classes of operational nonconformances and anomalies that can be decided by the operator's internal NRB;
- the composition of higher level NRBs, as appropriate.

b. As a minimum, the operator's internal NRB shall include the following members:

- PA representative, and
- technical representative responsible for the operations of the space system.

Additional experts may be called as necessary.

c. Timely provisions shall be considered to secure the necessary support by relevant parties involved in the development and procurement of the space system for the duration of the space mission.

6.3.3 Processing requirements

a. The operator shall adapt the basic requirements defined in clause 5 to the reporting and processing of operational nonconformances and anomalies, by establishing and maintaining documented procedures to be agreed with the relevant parties.

b. In particular, the following aspects specific to operational anomalies shall be addressed:

1. the established procedures shall take into account that operational anomalies can call for immediate response, in order to avoid the loss of the spacecraft or major mission degradation;
2. the operator should be granted the authority to carry out urgent actions for the analysis of the causes and consequences, without systematic prior approval by the other parties concerned (e.g. the spacecraft owner).

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7

Documentation requirements

7.1 Nonconformance report (NCR)

The nonconformance report contents is specified in the DRD defined in annex B of this Standard.

7.2 Formats for nonconformance reporting

a. The customer and the supplier shall agree upon a NCR format to process major nonconformances and customer-furnished equipment.

b. The supplier may use his own NCR formats for internal processing as long as they include all data elements designated as mandatory in annex B.

NOTE The supplier's working language is acceptable for internal NCRs, unless otherwise required by the business agreement.

7.3 Nonconformance summary status report

a. The supplier shall maintain an NCR summary list, providing a complete representation of the status of all nonconformances occurring in the frame of a business agreement, for each product, at any time.

b. For each NCR, at least the following information shall be included:

- NCR unique identification,
- nonconforming item identification,
- short description of the nonconformance,
- date of last NRB meeting,
- disposition,
- implementation status of the disposition,
- reference to RFW, if applicable, and
- open or closed status.

c. The nonconformance summary status report shall cover major and minor NCRs.

d. The nonconformance summary status report shall be part of the periodic PA status report to the customer, unless otherwise required by the business agreement

NOTE The nonconformance summary status report should be generated from the nonconformance database (see subclause 8.2).

8

Quality record requirements

8.1 Records associated to nonconformances

a. Each nonconformance shall be fully documented and self-explanatory.

b. Nonconformance records shall consist of

- the NCRs themselves, as defined in 7.1 and 7.2, and
- all documents referenced by them, such as minutes of meeting, inspection reports, test reports, and failure analysis reports.

8.2 Nonconformance database

The supplier should maintain a database of nonconformances.

The nonconformance database should be used

- for NCR follow-up,
- for the generation of a NCR summary status report (see 7.3), and
- as an electronic tool for complete NCR processing.

The database should contain information related to both minor and major NCRs.

The amount of information stored should be sufficient to allow statistical and trend analysis.

8.3 Analysis of records

a. The supplier shall periodically review the nonconformance records, in order to evaluate the progress of the actions for the correction and prevention of nonconformances and to ensure their proper and timely close-out.

b. The nonconformance records shall also be analysed to assess the existence of trends in the occurrence of nonconformances.

This analysis should be aimed at detecting conditions which can lead to new nonconformances and verify the effectiveness of the implementation of the corrective actions performed for previous nonconformances.

The analysis of records should also be aimed at extracting lessons learned, useful for preventing the repetition of mistakes or reinforcing successful practices.

c. The frequency of the reviews shall be appropriate to the volume of nonconformances, but should not be less than quarterly.

d. The analysis of the nonconformance records shall provide, as a minimum:

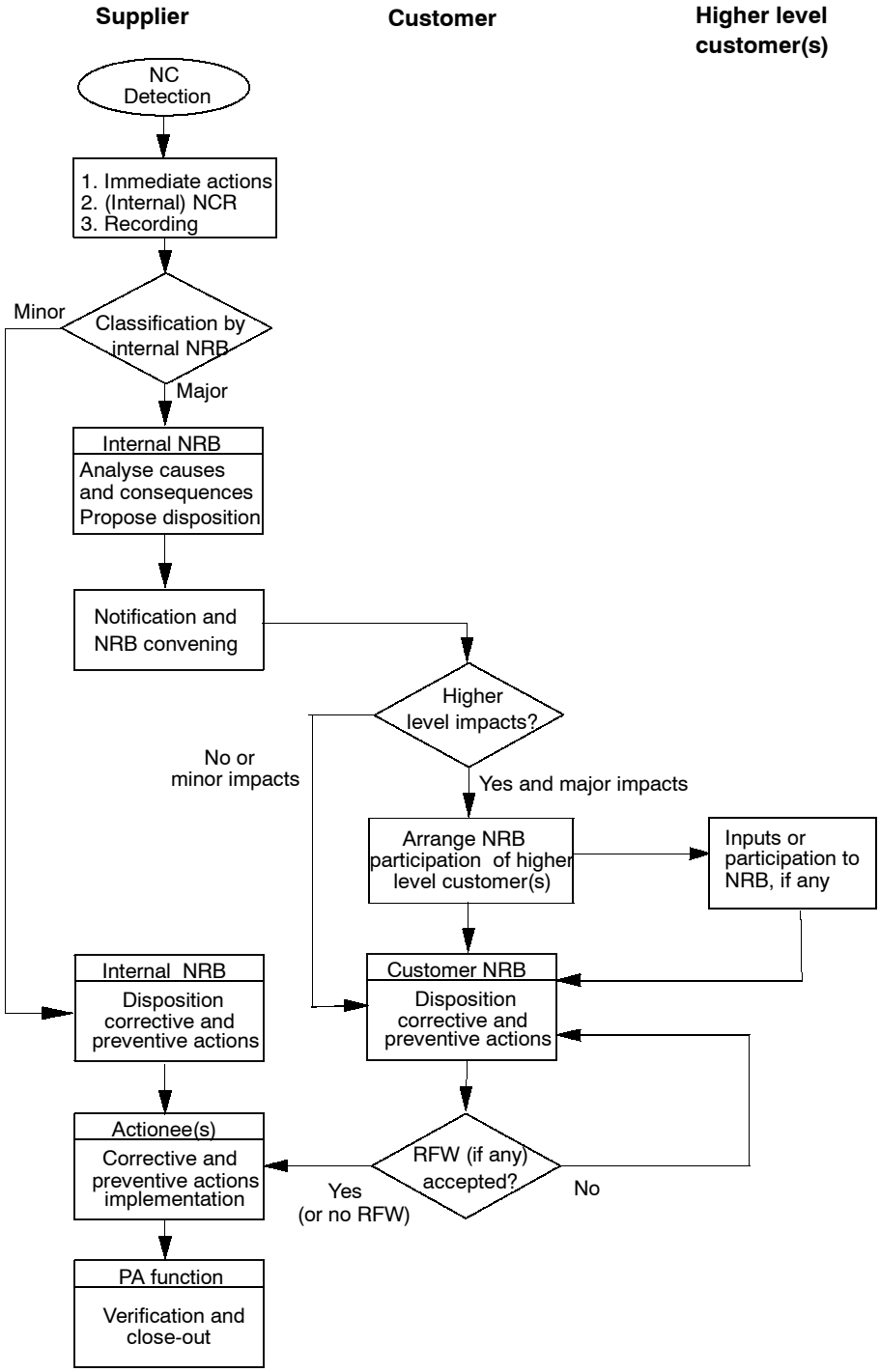
- total number per flight configuration, subsystem and equipment as appropriate,
- trend of open and closed status, both in terms of disposition and corrective action(s) implementation, and
- number by cause of the nonconformance, to identify the areas for improvement and verify the effectiveness of corrective actions.

The trends should be shown separately for hardware, EEE parts and software.

For EEE parts, the trend per generic type (e.g. capacitors, power transistors, microprocessors, carbon resistors, and diodes) should also be provided.

Annex A (informative)

Nonconformance processing flow chart



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Annex B (normative)

Generic NCR form and NCR data requirements

1 **Company**	2 **Project name**	NCR-N°: 3 Revision 4 Related internal NCR-N°: 5 Critical item: Yes ☐ No ☐ 6 Page 1 of ___ Attachments: 7

Nonconformance report

NCR **title** 8			
NC item **identification** 9	Sr-N°	Drawing N° 12	
Next higher assembly 10		Procedure N° 13	
Subsystem	Model N° 11	Supplier 14	Purchase order
NC observation Date: Location: 15		NC detected during .... (Prod.-/inspec. step, test, etc.) 16	
Description of nonconformance 17		Requirements violated 18 Initiator: Date, Name and Signature 19	
Internal NRB dispositions 20 Ref. to MoMs 21			**Classification:** 22 **Minor** ☐ **Major** ☐ Customer notification per 23 Verification 24
Cause of NC 25 Ref. to failure report 26		Corrective or preventive actions 27	
Date: Name: Signature:	**PA** 28	**Engineering** 29	30 31
Customer NRB dispositions (Class major, only) 32 Ref. to MoMs 21			Verification 24
Finally determined cause of NC 33 Ref. to failure report 34		Corrective or preventive actions 35	
Request for waiver Yes ☐ No ☐ Reference: 36		Alert Yes ☐ No ☐ Reference 37	Other related documents 38
NRB approval Organization, Name	Chairman 39	40 41	42 43
Date, Signature	44	45 46	47 48

NCR close-out 49
Date, Signature, Stamp

Figure B-1: Nonconformance report (recommended format)

1 Company	2 Project name	NCR-N°: 3 Revision 4 Page __ of ___ 7

Nonconformance report

- Continuation sheet -

NCR treatment sequence, findings, statements or actions	Verification
50	24

Figure B-2: Nonconformance report continuation sheet

Table B-1: Description of the NCR data requirements

Box	Field	Description	Mandatory entry
1	Company	Identification of the supplier of the nonconforming item	Yes
2	Project name	Project under which the item is procured	Yes
3	NCR-no.	Unique identification and registration number	Yes
4	Revision	Alpha or numerical identification of updated issues	Yes
5	Related internal NCR	Reference to internal report which might have been issued previously	No
6	Critical item	"Yes" or "No" as identified in the project CIL	Yes
7	Page Attachments	Individual page number and total number of pages of the report Attached pages (only first page of each item)	Yes Yes
8	NCR title	Short description (it should be the same as used in the nonconformance summary status report)	No
9	NC item	Identification of the nonconforming item by name and number according to the CIDL and its serial number (if any)	Yes
10	Next higher assembly	Identification of the assembly group of which the nonconforming product forms part	No
11	Subsystem Model	as per 10 as per 10	No No
12	Drawing no.	Document that defines the affected product	Yes
13	Procedure no.	Procedure in execution when the nonconformance occurs	Yes
14	Supplier Purchase order	Name of the supplier of the nonconforming item Number of purchase order if the nonconformance is observed on a supplied product	Yes, if applicable
15	NC observation	Date and location of the nonconformance observation	Yes
16	NC detected during ...	Activity being performed when the nonconformance was detected Name and organization group of the NC observer	Yes, where relevant
17	Description	Description of the nonconformance, location on the product, means of detection, condition for observation, to be supported by sketches and attachments as appropriate, environmental conditions pertaining to the product at that time	Yes
18	Requirements violated	Identification of the detailed requirement to which the product does not conform	No
19	Initiator	Name, date and signature of the person raising the nonconformance	Yes

Table B-1: Description of the NCR data requirements *(continued)*

Box	Field	Description	Mandatory entry
20	Internal NRB	Dispositions as per subclause 5.6.6 and actions agreed by the NRB	Yes
21	Ref. to MoMs	Identification of minutes of meeting drafted during the NRB meeting	Yes, if any
22	Classification	"Minor" or "Major" as per internal NRB decision	Yes
23	Customer notification	Date and reference to written notification	No
24	Verification	Individual close-out statement by PA personnel for all actions determined by the NRB	Yes
25	Cause of NC	Basic fact or circumstance which causes the nonconformance	Yes
26	Ref. to failure report	Document identification number of the failure analysis report	Yes, if existing
27	Corrective or preventive actions	Corrective or preventive actions agreed by internal NRB for minor NCRs	Yes
28	PA	Date, name and signature of PA representative in the internal NRB	Yes
29	Engineering	Date, name and signature of the engineering representative in the internal NRB	Yes
30 31	blank	Date, names and signatures of additional NRB members of the internal NRB	No
32	Customer NRB dispositions	Dispositions as per subclause 5.6.6 and actions agreed by the customer NRB	Yes, if class major
33	Finally determined cause of NC	Basic fact or circumstances which causes the nonconformance as confirmed by customer NRB	Yes, if class major
34	Ref to Failure Report	Document identification number of the failure analysis report on customer NRB level	Yes, if existing
35	Corrective or preventive actions	Corrective actions agreed by customer NRB for major NCRs	Yes
36	Request for waiver	"Yes" or "No" based on customer NRB disposition and the identification number of the RFW in case of "Yes"	Yes, if applicable
37	Alert	"Yes" or "No" as per customer NRB decision and the identification number of the Alert in case of "Yes"	No
38	Other documents	Identification of other related documents according to NRB decision	Yes, if applicable
39	Chairman	Name of company and person chairing the customer NRB	Yes
40 to 43	blank	Names of the members of the customer NRB and respective companies	Yes
44	blank	Date and signature of the customer NRB chairman	Yes

Table B-1: Description of the NCR data requirements *(continued)*

Box	Field	Description	Mandatory entry
45 to 48	blank	Date and signatures of the customer NRB members	Yes
49	NCR close-out	Date, signature and stamp of the supplier PA or QA responsible for final closure	Yes
50	Additional info. /continuation sheet	Any additional information and actions with clear link to the NCR	Yes, if needed

ECSS Document Improvement Proposal

1. Document I.D.	2. Document date	3. Document title
ECSS-Q-20-09B	8 March 2002	Nonconformance control system

4. Recommended improvement (identify clauses, subclauses and include modified text or graphic, attach pages as necessary)

5. Reason for recommendation

6. Originator of recommendation

Name:	Organization:	
Address:	Phone: Fax: e-mail:	**7. Date of submission:**

8. Send to ECSS Secretariat

Name:	Address:	Phone: +31-71-565-3952
W. Kriedte ESA-TOS/QR	ESTEC, P.O. Box 299 2200 AG Noordwijk The Netherlands	Fax: +31-71-565-6839 e-mail: Werner.Kriedte@esa.int

Note: The originator of the submission should complete items 4, 5, 6 and 7.

This form is available as a Word and Wordperfect-file on internet under
http://www.estec.esa.nl/ecss

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