



CNES ALERT SYSTEM

Brief description

08/03/2018

- CNES alert System is the tool used in CNES to **ensure awareness of failures and problems experienced in CNES space projects.**
- **CNES alert system is based on the prompt exchange of information among the users of the system.**
- CNES alert system covers **failures and problems with a potential for negative impacts** on the performance of space systems, which are detected at **any stage of the space system life cycle**, starting from design, up to operations and ending at withdrawal from service.
- CNES alert system is mainly focused on electronic components but it can be used to release alert on other topics (electronic design, processes, ...)

Alert definition given in ECSS-Q-ST-10 is used by the CNES alert system

1. The item with the observed failure or problem has multiple applications, which can have implications for more than one project, thus requiring prompt action.
2. The failure or problem has occurred in the application of an item within the specified design and usage limitations.
3. Failures or problems due to usage within reasonably expected limits of performance, but where these limits were not specified precisely.
4. A preliminary investigation has provided evidence of the root cause of the failure or problem.
5. Failure or problems are confirmed not to be of a random nature.

Alert definition according to ECSS-Q-ST-10

(Source : ECSS-Q-ST-10, Ver.C Rev.1 15/03/2016)

ESA alert issuing criteria are used by the CNES alert system

1. The item with the observed failure or problem has multiple applications, which may have implications for more than one project, thus requiring prompt action.
2. The failure/problem has occurred in the application of an item within its specified design and usage limitations..
3. A preliminary investigation has provided sufficient evidence of the root cause of the failure/problem.
4. The failure/problem is confirmed not to be an isolated case or of a random nature.
5. **Complete and unambiguous traceability of all the affected items to the impacted users is not possible.**

ESA alert issuing criteria

(Source : ESA alert System operational procedure, ESA-TECQ-PR-0222, Issue 1, 17/01/2017)

- According to ECSS-Q-ST-10, each CNES supplier shall notify CNES of preliminary information on failures or problems that can result in an alert.
- If the issuing criteria are fulfilled, alert resulting from the failure encountered by one CNES supplier is released to the CNES alert system mailing list.
- This mailing list encompasses the following members :
 - CNES Quality department
 - CNES project teams
 - CNES contractors or partners involved in CNES projects
 - ESA

- The information contained in each alert report is presented for guidance of employees of French National Space Agency, "Centre National d'Etudes Spatiales" (CNES).
- Each alert report is distributed by CNES to industrial contractors involved in CNES Projects and is not intended to be passed to or used by third parties.
- The recommendations which are proposed cannot take the place of each specific Project dispositions. It is understood to be only advisory in nature.
- Neither CNES nor any person acting on behalf of CNES assumes any liability resulting from the use or the information contained herein.
- These information should not be interpreted and used to discredit a manufacturer or a product.

- As a minimum, **manufacturer and projects involved in an alert are consulted** before to release it.

Here is the description of the CNES alert team :

- **CNES alert focal point** : in charge of gathering and releasing alerts.
- **CNES alert technical team** : in charge of investigating alerts.
- **CNES alert application engineer** : in charge of identifying CNES projects impacted by an alert
- **CNES alert system manager** : in charge of checking any alert before its release.