



Ames Policy Directive

APD 8700.1

Effective Date: November 29, 2022

Expiration Date: November 29, 2025

COMPLIANCE IS MANDATORY

Subject: Problem, Nonconformance, Preventative and Corrective Action Management Policy

Responsible Office: Code Q / Safety and Mission Assurance Directorate

CHANGE LOG

Status [Baseline /Revision /Cancelled]	Document Revision	Date of Change	Description
Baseline	0	6/9/2009	Baseline release
Revision	1	8/12/2009	Added Revision History, and revised section 1.0 item 3 on hardcopy.
Revision	2	11/14/2017	Update to the new template, Authority, and Applicable Documents and Forms sections.
Revision	3	11/29/2022	Changed Responsible Office from ACE to Code Q; updated responsibilities and minor administrative edits.

1. POLICY

- a. This directive describes the responsibilities and requirements for how NASA Ames Research Center (ARC) manages problems, nonconformance, preventative, and corrective actions in accordance with Agency policy (NPD 8700.1, NPD 8730.5, and NPR 7123.1) and Industry Standards (ISO9001/AS9100).
- b. NASA Ames personnel (programs/projects, line organizations, and facilities) use the ARC Problem Reporting, Analysis, and Corrective Action (PRACA) system to manage problems, nonconformance, preventative and corrective actions in accordance with APD 8735.3 and APR 8735.3. It is appropriate to capture software problems and nonconformance at the sub-system level in other tools (i.e., issue trackers, bug trackers, etc.) as documented in the project's software compliance matrix in accordance with APR 7150.2.
- c. It is ARC policy to use APR 8735.2, Deviation/Waiver (D/W) Process, to manage and process waivers stemming from any nonconformance, preventative or corrective actions, or deliberate departure from a documented requirement.
- d. All required signatures are obtained using the ARC PRACA tool prior to advancing any Nonconformance Report (NCR), Corrective Action Report (CAR), or Deviation/Waiver (D/W) to its next process step. In the event the ARC PRACA tool is unable to automate the signature process, manual routing of a signature page and supporting information may be used as long as such page contains all signature authorities required by PRACAs per APR 8735.3, and D/Ws per APR 8735.2.

2. APPLICABILITY

- a. This APD is applicable to ARC and associated facilities (e.g., contractor's facilities).
- b. This APD applies to civil servants at ARC and to contractors, grant recipients, and parties to agreements to the extent specified or referenced in the contracts, grants, or agreements.
- c. In this directive, all mandatory actions (i.e., requirements) are denoted by statements containing the term "shall." The terms "may" or "can" denote discretionary privilege or permission, "should" denotes a good practice and is recommended, but not required, "will" denotes an expected outcome, and "are/is" denote descriptive material.
- d. In this directive, all document citations are assumed to be the latest version unless otherwise noted.
- e. This APD is applicable to all current and future airborne and space flight systems (both flight and ground segments), technology matured to readiness levels for end-use in systems, mission critical software systems, and new and/or changes to both human rated and critical facilities. For existing activities, the policies of this document are applicable to the activity's extant phase and phases yet to be completed as of the effective date of this APD.
- f. For those activities, wherein ARC is responsible for a task within a project led by an external organization, ARC will follow this procedure requirement document unless directed by the external organization to support the governance policies of the lead organization. In such case, ARC will tailor the processes in coordination with the lead organization and with the approval of ARC SMA and Engineering Technical Authorities, and formally documented in the Customer Agreement or Statement of Work. Furthermore, the term "corrective action system" includes any process or system that is the repository or tool used to identify, record, track, and close out actions resulting from investigations of mishaps,

discrepancies, findings, anomalies, or nonconformities to design specifications, operational parameters, process controls, Center requirements, Agency requirements, Federal regulations, accepted standards, and other controlling requirements.

g. Requests to use a problem reporting system other than PRACA as described in this APD are required to follow the process described in APR 8735.2 to gain both the Engineering and S&MA Technical Authorities approval.

3. AUTHORITY

a. NPD 8700.1, NASA Policy for Safety and Mission Success

4. APPLICABLE DOCUMENTS AND FORMS

- a. NPR 7123.1, NASA Systems Engineering Processes and Requirements
- b. NPR 7150.2, NASA Software Engineering Requirements
- c. APD 8735.3, Verification of Product/Service Conformance to Requirements
- d. APR 8735.2, Deviation/Waiver Process
- e. APR 8735.3, Control of Nonconforming Products and Services

5. RESPONSIBILITY

a. **The Director of the Safety and Mission Assurance (S&MA) Directorate** shall:

- (1) Maintain and administer the PRACA system.
- (2) Ensure the implementation of this APD.
- (3) Provide independent verification of nonconformance closeout (including review of root cause analysis) and corrective action effectiveness.
- (4) Perform periodic reviews and audits of the problem, nonconformance, preventative, and corrective action management processes for compliance with requirements and for identification of opportunities for continuous improvement.
- (5) Perform system-wide trending analysis of the problem, nonconformance, preventive and corrective action management systems content.
- (6) Review results of trending analysis with the Ames Chief Engineer to ensure continuous improvement of ARC processes.
- (7) Provide status report of trending analysis to Center Management.

b. **Line Managers** shall ensure that their employees use the PRACA system to manage problems, nonconformance, and preventative and corrective actions.

c. **Program/Project Managers** shall:

- (1) Establish, operate, and maintain their problem, nonconformance, preventative and corrective action process in accordance with the policies of this APD, APD 8735.3, APR 8735.3, and APR 8735.2.
- (2) Report status of nonconformance and corrective actions to the Ames Center Management Council (ACMC).

6. DELEGATION OF AUTHORITY

None.

7. MEASUREMENT/VERIFICATION

a. Verification of conformance to requirements in this directive are measured through Center and Responsible Organizational management reviews, self-assessments, and subsequent analysis and reports of conformance to requirements, as well as periodic internal audits.

8. CANCELLATION

a. APD 8700.1, Problem, Nonconformance, Preventative and Corrective Action Management Policy, dated November 14, 2017.

Eugene Tu
Director

DISTRIBUTION:

Internal and external distribution.

ATTACHMENT A. ACRONYMS

ACMC	Ames Center Management Council
APD	Ames Policy Directive
APR	Ames Procedural Requirement
AQMS	Ames Quality Management System
ARC	Ames Research Center
CAR	Corrective Action Request
D/W	Deviation/Waiver
NCR	Nonconformance Report
NPD	NASA Policy Directive
NPR	NASA Procedural Requirement
PRACA	Problem Reporting and Corrective Action
S&MA	Safety and Mission Assurance