



# Ames Procedural Requirements

APR 8735.2

Effective Date: June 27, 2023

Expiration Date: June 27, 2028

**COMPLIANCE IS MANDATORY**

**Subject: Deviation and Waiver (D/W) Process**

**Responsible Office: Code Q / Safety and Mission Assurance Directorate**

## CHANGE LOG

| Status<br>[Baseline<br>/Revision<br>/Cancelled] | Document<br>Revision | Date of<br>Change | Description   |
|---|----------------------|-------------------|---|
| Baseline  | -                    | 6/27/2023         | New baseline to clarify the Deviation/Waiver process. |
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## **PREFACE**

### **P.1 PURPOSE**

- a. This Ames Procedural Requirements (APR) document defines the process to waive or deviate from Ames Research Center (ARC) requirements or agency requirements within ARC's authority to waive. It may also be necessary to follow the process of this APR to obtain a waiver approval from the appropriate Center authority prior to seeking a waiver from NASA Headquarters. In these cases, the waiver initiator will need to obtain direction from the NASA Headquarters requirements owner and the Ames Director of Safety and Mission Assurance.
- b. This APR is not intended to address waivers and deviations to program and project defined requirements beyond any Center or Agency requirements. For waivers or deviations to program and project defined requirements, the initiator will need to seek approval of the waiver and deviation from either within their program or project or from the program or project Decision Authority, depending on the delegated authority for the requirement.

### **P.2 APPLICABILITY**

- a. This directive applies to all Center-level requirements wherein ARC is responsible for the fulfillment of the documented requirement.
- b. This directive does not replace D/W requirements set forth in NASA-level procedural requirements or policy directives for Programs, Projects, Institutional, Safety, Health and Medical, Mandatory Technical Standards, or Technical Requirements where the Technical Authority or establishing authority resides outside of the Center's purview. However, this procedure is to be used to provide Center review in those cases prior to seeking D/W approval from an authority outside the Center.
- c. This directive applies to contractors, grant recipients, or parties to agreements only to the extent specified or referenced in the appropriate contracts, grants, or agreements.
- d. 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" denotes descriptive material.
- e. In this directive, all document citations are assumed to be the latest version unless otherwise noted.

### **P.3 AUTHORITY**

- a. NPD 1000.0, NASA Governance and Strategic Management Handbook
- b. NPD 7120.4, NASA Engineering and Program/Project Management Policy
- c. NPR 8715.1, NASA Safety and Health Programs

### **P.4 APPLICABLE DOCUMENTS AND FORMS**

- a. APR 8000.4, Risk Management Process Requirements
- b. APR 8735.3, Control of Nonconforming Products and Services

## **P.5 MEASUREMENT/VERIFICATION**

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

## **P.6 CANCELLATION**

a. APR 8735.2, Deviation/Waiver (D/W) Process dated April 24, 2018.

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Eugene Tu  
Director

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## **DISTRIBUTION STATEMENT:**

Internal and external distribution.

## CHAPTER 1 RESPONSIBILITIES

### 1.1 Deviation/Waiver Requester shall:

- a. Submit a D/W request in the ARC Problem Reporting and Corrective Action (PRACA) system, including the following information:
  - (1) Identify the specific requirement for which a D/W is requested and where the requirement is documented.
  - (2) Provide justification for the D/W.
  - (3) Assess the residual risk if the D/W is approved.

*Note: PRACA can be accessed via <https://arc-praca.mas.nasa.gov/>. Access to PRACA requires a NAMS request for "ARC PRACA".*

- b. Request adjudication from the Requester's Organization Director if the request was disapproved by the Responsible Manager and the Requester believes an unsatisfactory rationale was provided.
- c. Initiate the Dispute Resolution process defined in Section 2.4 if appropriate.

### 1.2 Responsible Manager shall concur or non-concur with the proposed D/W Request.

### 1.3 Organization Directors shall:

- a. Concur or non-concur the proposed D/W Request, if applicable.

*Note: An Organization Director concurrence or non-concurrence is typically not required for a program or project. An Organization Director concurrence or non-concurrence is typically only required for a facility or task within their organization.*

- b. Review and adjudicate D/W disapprovals from within their organization if requested by the Requester or Responsible Manager.

### 1.4 Safety and Mission Assurance (SMA) Director shall:

- a. Determine the necessary approvals for each D/W request.

*Note: Candidate Approval Authorities for each D/W request are the SMA Director, Chief Medical Officer, Ames Chief Engineer, and the Center Director.*

- b. Ensure that the D/W request is assessed for residual risk to safety and mission success.
- c. Approve or disapprove the D/W request in the capacity of the Center's Safety and Mission Assurance Technical Authority.
- d. Review disapprovals of D/Ws regarding SMA requirements wherein consensus cannot be reached by the relevant parties, and make a final resolution as to the disposition of the D/W Request, including escalating these D/W Requests outside of the Center's purview, if necessary.
- e. Disseminate all Health and Medical D/Ws to the Chief Medical Officer for disposition.
- f. Process all D/Ws of Agency-level SMA requirements in accordance with NPR 8715.1.

**1.5 Chief Medical Officer** (in the capacity of the Center's Health and Medical Technical Authority) shall:

- a. Ensure, where applicable, that the D/W Request is assessed for residual risk to health and medical safety.
- b. Approve or disapprove D/Ws in the capacity of the Center's Health and Medical Technical Authority.
- c. Review disapprovals of D/Ws regarding Health and Medical requirements wherein consensus cannot be reached by the relevant parties, and make a final resolution as to the disposition of the D/W Request, including escalating these D/W Requests outside of the Center's purview.

**1.6 Ames Chief Engineer** shall:

- a. Ensure, where applicable, that the D/W Request is assessed for residual risk.
- b. Approve or disapprove D/Ws in the capacity of the Center's Engineering Technical Authority.
- c. Review disapprovals of D/Ws regarding engineering requirements wherein consensus cannot be reached by the relevant parties, and make a final resolution as to the disposition of the D/W Request, including escalating these D/W Requests outside of the Center's purview.

**1.7 Center Director** shall:

- a. Ensure that the D/W Request is assessed for residual risk to health and medical safety, property, engineering, and mission success as required by NPR 8715.1.
- b. Assess each D/W request and approve or disapprove.
- c. Review disapprovals of D/Ws wherein consensus cannot be reached by the relevant parties, and make a final resolution as to the disposition of the D/W Request, including escalating these D/W Requests outside of the Center's purview.
- d. Delegate, if desired, the authority to grant relief from requirements to the Deputy Director, Associate Director, or SMA Director, with the following stipulations:
  - (1) The Center Director remains responsible for the relief granted and for the impact of the relief.
  - (2) Center Directors shall not delegate the authority below the Deputy Director or Associate Director if, after risk mitigation measures are taken, the risk of noncompliance is assessed to be more than a minor increase to personnel injury or a significant risk to property.

**1.8 PRACA Manager** shall:

- a. Verify that the D/W Request form in PRACA is properly and completely filled out and has the necessary approvals as determined by the SMA Director.
- b. Ensure that the D/W Request is provided a tracking number and that the completed D/W Request form is archived.
- c. Release the D/W Request for signature.
- d. Monitor routing/approval status of the D/W Request and coordinate the D/W Request's process.
- e. Conduct regular reviews of the PRACA system to identify patterns or trends in D/W Requests that might suggest a need to modify existing directives.
- f. Update the electronic template of the D/W Request Form when directed by the SMA Director.

# CHAPTER 2 DEVIATION/WAIVER PROCEDURE

## 2.1 Overview

2.1.1 The D/W process is divided into four parts:

- a. Request and submission.
- b. Review and disposition.
- c. Dispute resolution.
- d. Archival and dissemination.

2.1.2 Figure 2 provides a flow diagram of the D/W process.

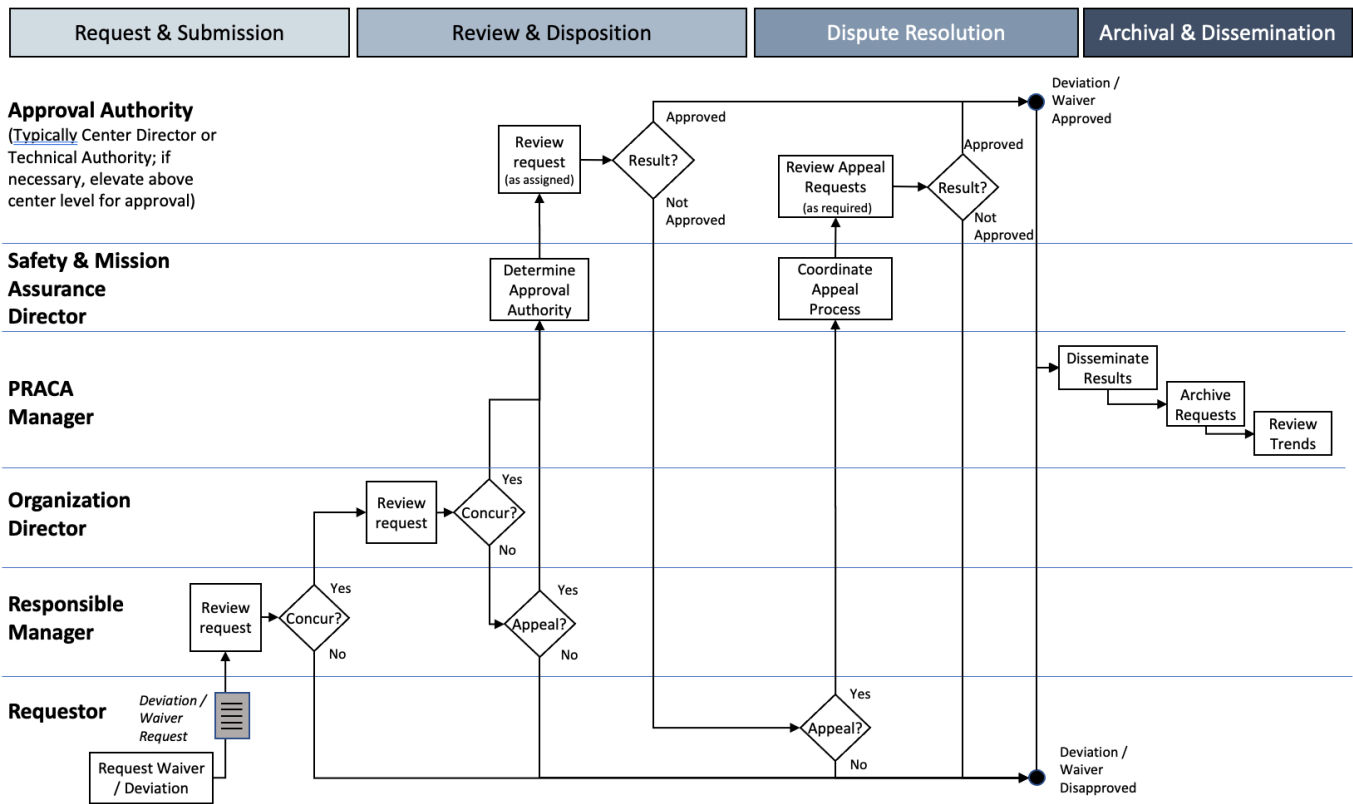


Figure 2. D/W Process

## 2.2 Request and Submission

2.2.1 The D/W request should be initiated by someone from the implementing organization, program, or project. The D/W should be reviewed by the Branch or Division Chief or program or project manager to determine if the requirement can be deviated from or waived with an acceptable level of residual risk.

2.2.2 The D/W Requester initiates the request process in the PRACA system:

- a. Identify the requirement category within which the requirement to be waived falls:
  - (1) Institutional
  - (2) Programmatic
  - (3) Safety
  - (4) Technical
- b. Identify the relevant program, project, facility, or task for which the relief is sought.
- c. Identify the hardware, software, or system which is affected by the requirement for which relief is sought.
- d. Identify the approval timeframe sought.
- e. Identify the specific document and requirement(s) from which relief is sought.
- f. Identify the action sought and the end condition at which the D/W will be terminated.
- g. Describe the justification for the D/W which includes defining the:
  - (1) Rationale for the D/W Request.
  - (2) Potential conflicts with other requirements if D/W is approved.
  - (3) Other pertinent data for information related to the D/W Request (e.g., cost or schedule impacts).
  - (4) Identification of any potential safety, health, and medical or security related issues as a result of approval of the D/W Request.
  - (5) Identification and assessment of the residual risk associate with approval of the D/W Request.
- h. Electronically sign the D/W Request.

2.2.3 The D/W Request is routed to the Responsible Manager.

2.2.4 The Responsible Manager shall:

- a. Review the request for completeness and appropriateness and either concur or non-concur with submitting the D/W for higher level approvals.
- b. If the D/W is disapproved, no further action is needed.
- c. If the D/W is approved, the Responsible Manager coordinates with the Organization Director responsible for the facility or task.

*Note: For programs and projects, the Organization Director is not required to approve the request. For programs and projects, the Responsible Manager can be the Lead Systems Engineer or the Project Manager.*

2.2.5 The approved D/W Request is routed to the SMA Director for review and distribution to the appropriate Approval Authorities.



## **2.3 Review and Disposition**

### **2.3.1 D/W Approval Authorities shall:**

- a. Review D/W Request to ensure that requested relief is justified.
- b. Approve or disapprove D/W Requests.
- c. If the D/W Request is disapproved by at least one of the Approval Authorities, that Approval Authority shall provide a written rationale for the disapproval.

## **2.4 Dispute Resolution**

2.4.1 In the situation where an Approval Authority disapproval rationale is disputed by the Requester, Responsible Manager, or Organization Director and cannot be resolved at their level, the following review process shall be followed:

- a. The Director of the Directorate from which the request originated and the Director of the Directorate from which the disapproval originated shall attempt to negotiate an acceptable resolution.
- b. If disagreement still exists, the SMA Director shall conduct a meeting between the Directorates in disagreement and the appropriate Center Authority to render a final resolution or decision to escalate the dispute outside the Center. The Center Authorities are as follows:
  - (1) Engineering Technical Requirements, the Ames Chief Engineer
  - (2) Institutional and Programmatic Requirements, the Associate Center Director
  - (3) SMA Requirements, the Director of Safety and Mission Assurance
  - (4) Health and Medical Requirements, the Chief Medical Officer

## **2.5 Archival and Dissemination**

### **2.5.1 The PRACA Manager shall:**

- a. Archive all D/W Request forms.
- b. Disseminate the results to the Requester, Responsible Managers, and other relevant organizations.
- c. Periodically review archived D/Ws for overall patterns and trends over time.
- d. Initiate corrective action(s) in accordance with APR 8735.3 when appropriate improvement opportunities are identified.

## APPENDIX A. DEFINITIONS

|                          |  |
|--------------------------|--|
| D/W Approval Authority   | The person or persons authorized to approve the relief from a need to fulfill a specific requirement or set of requirements in accordance with Center documentation.   |
| Deviation                | Authorization to depart from a requirement by substituting an alternative.   |
| Facility Manager         | The person responsible for a physical, on-site facility.   |
| Programmatic Requirement | A requirement that has a bearing on the management of a research program or project. Typically such requirements are found in specific project management plans (Project Management Plan, Systems Engineering Management Plan, Configuration Management Plan, etc.)  |
| Project/Task Manager     | The lead ARC person responsible for the successful completion of an assigned activity (Project/Task).  |
| Requester                | Individual responsible for the article or process that requires a D/W from a documented requirement, who initiates the D/W Request.  |
| Responsible Manager      | The supervisor of the Requester. The Responsible Manager is typically the program or project manager, or the Branch or Division Chief for a given facility or task.  |
| Responsible Office       | The research, program, project, or line organization level which has the responsibility for assuring the success of the activity for which relief from a requirement is sought.  |
| SMA Requirement          | A requirement that has bearing on human safety, health, and medical, facility or equipment operational safety, or mission assurance. Pressure Systems are included under Safety. Examples of safety requirements are to be found in APR 8715.1, Ames Health and Safety Manual or APR 8705.1, System Safety and Mission Assurance.  |
| Technical Requirement    | A requirement that has a bearing on engineering systems or software. Examples of such requirements are found in documents such as ARC-STD-8070.1, Space Flight System Design and Environmental Test, Mandatory Technical Standards, technical standards such as Handling Electrical, Electronic, and Electromechanical (EEE) Parts, or specific systems or software engineering requirements and specifications. |
| Waiver                   | Authorization to not comply with a requirement.  |

## APPENDIX B. ACRONYMS

|       |  |
|-------|--|
| APR   | Ames Procedural Requirements                   |
| ARC   | Ames Research Center                           |
| D/W   | Deviation/Waiver                               |
| NASA  | National Aeronautics and Space Administration  |
| NPD   | NASA Policy Directive                          |
| NPR   | NASA Procedural Requirements                   |
| PRACA | Problem Reporting and Corrective Action System |
| SMA   | Safety and Mission Assurance                   |