ARMSTRONG FLIGHT POLICY DIRECTIVE (AFPD)	**Directive:**	**AFPD-8715.5-001, Revision B**
	Effective Date:	**July 23, 2025**
	Expiration Date:	**July 23, 2030**

Compliance is mandatory.

SUBJECT: Armstrong Range Safety Risk Criteria

RESPONSIBLE OFFICE: Safety and Mission Assurance (S&MA) Directorate
Flight Research and Test Safety Branch

1. POLICY

a. It is the policy of National Aeronautics and Space Administration (NASA) Armstrong Flight Research Center (AFRC) (hence forth referred to as the Center), in Edwards, California, to abide by the range safety risk criteria in NASA-Standard (STD)-8719.25, Range Flight Safety Requirements, with the following exception (see Attachment B for information on background and rationale):

(1) Collective Public Risk Criteria for all flights other than controlled entry: $E_C \leq 30 \times 10^{-6}$, applied separately for each hazard.

Note: Public refers to visitors and personnel (excluding NASA workforce) inside and outside NASA-controlled locations who may be on land, on waterborne vessels, or in aircraft. Range safety implementation of the E_C criteria often includes the use of impact probability criteria, which ensure that any people on waterborne vessels or in aircraft do not contribute significantly to the overall public collective risk.

2. APPLICABILITY

a. This Armstrong Flight Policy Directive (AFPD) is applicable to the Center and the programs/projects to which the Center has been assigned range safety responsibility.

b. In this directive, all mandatory actions (i.e., requirements) are denoted by statements containing the term "shall." The terms "may" denotes a discretionary privilege or permission, "can" denotes statements of possibility or capability, "should" denotes a good practice and is recommended, but not required, "will" denotes expected outcome, and "are/is" denotes descriptive material.

c. In this directive, all document citations are assumed to be the latest version unless otherwise noted.

3. AUTHORITY

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

b. NASA Procedural Requirement (NPR) 8715.5, Range Flight Safety Program

c. AFPD-8700.1-001, Organizational & Individual Safety Responsibilities

4. APPLICABLE DOCUMENTS AND FORMS

NASA-STD-8719.25, Range Flight Safety Requirements

5. RESPONSIBILITY

a. The Center Director is responsible for ensuring that Center programs and projects comply with this policy.

b. The Center Chief Engineer will elevate any range safety risk that exceeds the criteria in NASA-STD-8719.25, including as modified in paragraph 1.a.(1), to the Center Director for approval.

6. DELEGATION OF AUTHORITY

None.

7. MEASUREMENT/VERIFICATION

Compliance will be measured through recurring Agency Audits of Center range safety risk documentation created for supported operations.

8. CANCELLATION

AFPD-8715.5-001 A-1, Armstrong Range Safety Risk Criteria dated September 30, 2020.

Shawn Kern Digitally signed by Shawn Kern
Date: 2025.07.23 08:47:08 -07'00'

/S/
Director for Safety & Mission Assurance

Attachment A. Acronyms

AFRC	Armstrong Flight Research Center
NASA	National Aeronautics and Space Administration
NID	NASA Interim Directive
NPD	NASA Policy Directive
NPR	NASA Procedural Requirements
STD	Standard

Attachment B. Background and Rationale

Background

Prior to September 2010, the Agency used a per mission collective public risk criteria of $E_C \leq 30 \times 10^{-6}$, applied separately for each hazard that is primarily analyzed by Range Safety at the launch Ranges per the original NPR 8715.5, Range Safety Program (2005). The three main hazards are debris, toxics, and distant focusing overpressure. In 2010, the Range Commanders Council, of which the Agency is a member, decided to combine the collective public risk posed by all three hazards into a single collective public risk of $Ec \leq 100 \times 10^{-6}$ per mission. The rationale behind the change was that the launch Range Commanders accepted a combined collective public risk of 90×10^{-6} to 100×10^{-6} on a regular basis so why bound the collective public risk criteria to 30×10^{-6} for each hazard per mission. This change gave the launch Range Commander the latitude to redistribute the risk for each hazard, as needed, so long as the combined collective public risk is less than or equal to 100×10^{-6}. The Agency updated the collective public risk criteria to match that in RCC 321-10, Common Risk Criteria Standards for National Test Ranges, by documenting the change in NPR 8715.5, Range Flight Safety Program, and in subsequent versions.

Rationale

The missions operated at the Center, for which range safety is responsible, primarily involve unproven/experimental Unmanned Aerial Vehicles, not missiles/rockets. The only significant hazards produced by these aeronautical operations are those created by falling debris. Therefore, the mission collective public risk criteria for aeronautical test operations at the Center will remain $E_C \leq 30 \times 10^{-6}$, applied separately for each hazard.

Change Log

Baseline, 08-20-15
- New document

Baseline-1, 06-27-17
- Admin update
- Baseline changed to Baseline-1
- DPD-8715.5-001 renumbered in accordance with Center instruction.

Baseline-2, 09-10-18
- Admin updates to RESPONSIBLE OFFICE APPLICABILITY sections
- Updated directives in AUTHORITY section 3.
- Corrected previous Document History Log entry

Baseline-3, 09-01-20
- Admin update
- Document extended

Revision A, 09-30-20
- Admin updates to section 1. POLICY
- Section 4. header updated

Revision A-1, Admin change, 07-07-21
- Added Attachments A and B.

Revision B, 07-23 -25
- Added Attachment B.