



**DRYDEN
POLICY
DIRECTIVE**

DPD-8700.1 Baseline
Effective Date: August 19, 2005
Expiration Date: August 19, 2010

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Compliance is mandatory.

RESPONSIBLE OFFICE: S/Safety & Mission Assurance

SUBJECT: Organizational & Individual Safety Responsibilities

1. POLICY

a. It is Dryden's policy to execute safety responsibilities consistent with NPR 8715.3, NASA Safety Manual, through the establishment and implementation of safety programs for operations that entail risk to personnel and equipment.

b. DFRC's overall safety objective is zero mishaps and close call events.

c. Safety programs will be implemented employing the following key principles:

- (1) Individual employee involvement and accountability
- (2) Visible and strong management support and leadership
- (3) Disciplined safety controls recognizing the potential human failure in all safety-critical flight and ground activities
- (4) Proactive, non-punitive feedback mechanisms for employee identification of potential hazards
- (5) Periodic proactive analysis of potential and existing hazards
- (6) Compliance with existing direction from controlling government agencies and higher NASA authorities
- (7) Independent quality assurance of safety-critical activities. Independent assurance activity is that which is performed by personnel outside the primary organization having functional responsibility
- (8) Processes, documentation, and inspections sufficient to maintain process health and enable root cause identification of mishaps and close calls
- (9) Formulation and institutionalization of lessons learned resulting from both positive and negative outcomes impacting safety

d. Safety programs will include the following three key elements: Leadership, Planning, and Risk Management. These elements represent the minimum standard for a program; however, they are not intended to limit the inclusion of other risk management concepts or techniques that may be necessary for an effective program. Explanation of these elements follows.

- (1) Leadership: This element consists of those activities that ensure clear leadership support and accountability for safety of operations. The objective of such activities is to
 - Develop and sustain a viable and positive "safety culture" within their assigned workforce and supporting elements
 - Create the environment for the implementation of volunteer work area safety teams
 - Provide visible and tangible support for Center-level safety program activities
 - Create and maintain an effective and non-attribution feedback mechanism for raising safety concerns from the lowest employee to upper management

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- (2) Planning: This element includes all activities necessary to establish and maintain the safety program's strategy, organizational structure, and communication between elements within their respective organization and mission responsibility. These include, but are not limited to
- Establishing clear lines of authority and responsibility for safety program execution
 - Establishing a program to assess the health and, where deficient, remedy shortfalls of safety program activities
 - Establishing annual safety goals and objectives consistent with Center-level objectives and goals
 - Ensuring contractors conducting or supporting NASA operations are complying with the requirements of this and other pertinent safety directives and procedures
 - Establishing an activity-wide forum involving all organizations/offices that conduct or directly support operations to coordinate the administration of the safety program.
- (3) Risk Management: This element includes activities directed at identifying and mitigating risks to the operation. Essential to this element is a methodical approach involving individuals who conduct the processes and archiving of results and related information.

e. Safety program documentation will be used to implement the required elements and document the program's progress/results. Documentation may be scaled to complement the size, duration, and complexity of the operation.

f. Non-compliance with this policy or the resulting safety program requirements as well as the responsibility for a safety incident as a result of negligence, misuse, or intentional failure to follow/adhere to established requirements, may result in lower employee performance ratings, lower contract performance ratings, and/or other management action as appropriate. Compliance/non-compliance with safety requirements/standards and performance of safety programs will be reflected in the annual performance reports of each employee.

2. SCOPE AND APPLICABILITY

a. Safety programs are implemented for activities that are internally controlled by DFRC or are operations sponsored or supported by DFRC where

- (1) DFRC or its contractor personnel and its equipment are at risk,
(2) DFRC has an assigned safety responsibility (i.e., flight, ground, range, environmental, etc.),
or

(3) DFRC owns the asset,
and are not otherwise excluded by agreement or contract.

b. Safety programs will be implemented for the following: aviation activity, project activity and industrial activity. See Enclosure A for definitions of these activities.

3. AUTHORITY

NPR 8715.3 Safety Manual

4. REFERENCES

NPR 8621.1A Mishap Reporting, Investigating, and Record Keeping
NPD 1800.2A Occupational Health Program
NPD 1820.1 Environmental Health Program

5. RESPONSIBILITY

a. Center Director

- (1) Ensure safety responsibilities are known and understood at all levels of the organization, are routinely assessed, and that accountability is enforced
- (2) Ensure an adequate level of safety is maintained for all activities consistent with this policy
- (3) Approve annual goals for the effectiveness of safety programs
- (4) Support the NESC Chief Engineer in achieving established NESC goals and objectives

b. Associate Center Directors

- (1) Ensure safety programs are established within their organization at a level to effect clear control of the required elements
- (2) Maintain and support knowledgeable management of associated activities
- (3) Approve annual safety goals for their respective organizations/activities
- (4) Budget for the planned safety program activity

c. Directors & Office Chiefs

- (1) Establish and conduct safety programs for their assigned activities
- (2) Report program status at least annually at an appropriate management forum
- (3) Establish interim safety goals to pursue the overall Dryden goal
- (4) Include the pertinent requirements of this policy in contract, space act, or other agreements where practicable and the scope and applicability requirements are met.

d. Chief Engineer

- (1) Establish and direct Center-level reviews of research project airworthiness and flight safety.

e. S&MA Director

- (1) Establish and perform independent oversight of safety programs
- (2) Establish and maintain center-wide safety processes for following activities:

Mishap/Close Call Investigation & Reporting	Continuous Risk Management Program
Aviation Safety Management	Explosive Safety
Lessons Learned	Mishap/Quality Assurance Corrective Action
Critical Lift	Audit

- (3) Establish and direct Center-level reviews for aviation and industrial activity

f. Flight Research Project Managers, Facility Managers & Construction Project Managers

- (1) Ensure the safety of their assigned activity
- (2) Include the pertinent requirements of this policy in agreements with contract and external agencies where the scope and applicability requirements are met.

g. Dryden Safety Council Chair – Strengthen Dryden safety culture by ensuring safety awareness remains embedded in our day-to-day operations. Activities include:

- (1) Coordinate and plan Center workplace safety awareness events
- (2) Review all workplace safety close calls, hazard reports, injuries, and mishaps; incorporate recommendations and lessons learned
- (3) Promote active volunteer employee participation on Making Dryden Safer committees (traffic, electrical, critical lift, pressure vessels, etc.) and work area safety teams

- (4) Oversee Center emergency preparedness, plan emergency exercises, ensure emergency communications, and assess effectiveness
- (5) Advise Center management of critical safety concerns and needs

h. Supervisors

- (1) Notify their organizational safety representative and the DFRC Safety Office immediately of a close call or mishap
- (2) Responsible for operational safety of their assigned activities.

i. Employees

- (1) Ensure operational safety on a daily basis.
- (2) Immediately terminate operations if conditions indicate that risk has exceeded the assessed level or an unsafe condition has manifested itself. If termination language has not been established for a specific operation, employees should use the word “stop” as the verbal instruction to cease operations. Employees will immediately respond to all requests to terminate an operation regardless of source or specific means of notification.
- (3) Immediately notify the following personnel of a close call or mishap assuming their presence is not needed to terminate operations, and abate risk to further damage or injury.
 - a. Their supervisor or next available line manager,
 - b. And their respective safety personnel or the center safety office.

6. DELEGATION OF AUTHORITY

- a. The Chief Engineer is delegated the safety approval authority for activity in accordance with DCP-S-002.

7. MEASUREMENTS

- a. Safety programs develop, collect, and report on the top-level metrics indicating the health of their respective program and progress toward the safety goals and objectives. Top-level metrics are presented at the Dryden Management Review (DMR) or Dryden Management Systems Board (DMSB) quarterly and indicate at a minimum,
 - (1) Mishap and close call rates (DMR)
 - (2) Deviations from existing guidance (DMSB)
 - (3) Inspection and audit results and trends (DMSB)
 - (4) Status of external inspections and mishap corrective actions (DMSB)
- b. S&MA Directorate will report quarterly on the health of their center-wide safety processes/activities and center-wide trending of the top-level metrics at the DMR.
- c. Dryden Safety Council will report monthly on the progress and health of assigned responsibilities at the Center Director’s monthly safety review.

8. CANCELLATION – None

/S/ Kevin L. Petersen or Delegated Official

ENCLOSURE A – ACRONYMS, DEFINITIONS, AND ASSIGNED RESPONSIBILITIES

ASP	Aviation Safety Program
CAP	Corrective Action Plan
CD	Center Director
CIP	Center Implementation Plan
DCP	Dryden Center-wide Procedure
DFRC	Dryden Flight Research Center
DMR	Dryden Management Review
DMSB	Dryden Management Systems Board
LLIS	Lessons Learned Information System
NESC	NASA Engineering and Safety Center
NPR	NASA Procedural Requirements
OPR	Office of Primary Responsibility
S&MA	Safety and Mission Assurance

DEFINITIONS

Activity Definitions: These definitions are provided to segment safety responsibilities for major operations at DFRC.

Aviation Activity: Those nominal aircraft operations and maintenance that are not project unique involving flight and flight preparation activity to include, but not limited to:

- Airworthiness of the vehicle and life support equipment
- Vehicle upgrade and modification
- Vehicle maintenance and release
- Launch and recovery activities
- Qualification and readiness of aircrew
- Qualification and readiness of maintenance personnel
- Taxi and flight operation
- Range operations
- Ground tests

Industrial Activity: Activity that establishes and maintains the general Dryden infrastructure to including

- Building construction and maintenance
- Utility construction and maintenance
- Physical Security infrastructure

Project Activity: Activity that results from the modification and test of a project-unique end item or subsystem. It is those project-unique activities that are not part of the aircraft's nominal flight and maintenance operations defined by its technical orders or the Center's operational guidance. This includes but is not limited to

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- Fabrication and installation of test modifications
- Airworthiness of project unique equipment/modifications
- Ground test of project-unique equipment
- Ground training for flight test
- Flight test operations
- Range Operations
- Deployed operations

Non-Programmatic Activity: Activity that supports non-programmatic functions, including but not limited to

- On or off site education programs
- Student robotic events
- NASA exhibits at public events
- NASA gift shop and museum
- NASA cafeteria

Safety Definitions: These definitions augment those found in NPR 8715.2 and provide logical segmentation of safety domains within the above activities and are graphically represented in the diagram below. This should further allow assignment of safety responsibility within internal activities and with external organizations.

Safety: Activity such as hazard analysis, mishap investigation and reporting, hazard awareness, occupational training, and inspections that is intended to prevent or reduce the risk of injury or damage to equipment.

Aviation Safety: Safety efforts targeted at hazards associated with aviation activity.

Flight Safety: Safety efforts targeted at air vehicle operations that occur between the initiation of the takeoff and completion of the landing.

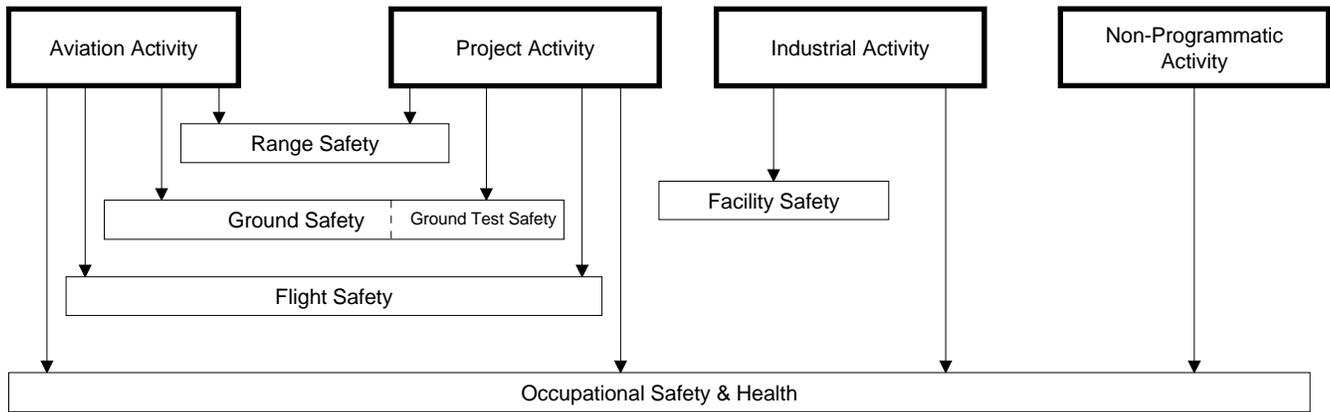
Ground Safety: Safety efforts targeted at activity not included within the definition of flight safety.

Ground Test Safety: Ground safety efforts targeted at project-unique equipment.

Range Safety: Safety efforts targeted at flight operations that threaten personnel and property to ensure that the risk of casualty/damage from an out-of-control impact is at or below an acceptable threshold. There is a recognized conceptual overlap with "Flight Safety". It is generally recognized that aircrew are not included within the responsibility of range safety.

Facility Safety: Safety efforts targeted at industrial activity associated with the access to and operation of all facilities, including special support capabilities that are resident within these facilities.

Occupational Safety & Health: Safety efforts to achieve a safe and healthful working environment.



Activity and Safety Domain Relationships

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Status Change	Document Revision	Effective Date	Page	Description of Change
Baseline		8-19-05		