

# NASA RANGE SAFETY PROGRAM 2005 ANNUAL REPORT

## Agency Range Safety Program

### Program Overview

NASA's range safety program is defined in NPR 8715.5, *NASA Range Safety Program*, dated 8 July 2005. The goal of the program is to protect the safety of the public, the workforce, and property during range operations such as launching, flying, landing and testing launch vehicles. NPR 8715.5 applies to all NASA centers and test facilities and all space vehicle programs including expendable launch vehicles, reusable launch vehicles, uninhabited aerial vehicles, experimental aerial vehicles, and the Space Shuttle and well as NASA-funded commercial ventures that involve range operations.

The purpose of the range safety program is to mitigate and control hazards, such as uncontrolled vehicles, debris, explosives, and toxics, associated with range operations. The primary approach is containment; in other words, preventing hazards from reaching people or property in the event of a mishap. When the hazards cannot be fully contained, a risk management process must be used to assess the risk in accordance with NPR 8715.5.

The range safety program is implemented by:

- Providing range safety training
- Performing range safety analyses early and throughout the program life cycle
- Using range safety systems, if necessary, to protect the public
- Providing or working with range personnel to provide controls, such as launch commit criteria, airspace and marine management, collision avoidance, and contingency action planning

The NASA Range Safety office was actively involved in all these processes in 2005. Some of the year's highlights include near completion of another range safety training course (third in a series), promulgation of the new NASA Range Safety requirements document, and completion of three independent assessments.

The KSC/SA staff was actively involved in refining range safety related launch processes throughout the year. Mr. Bert Garrido was instrumental in assisting the NASA Range Safety Manager and the KSC Range Safety Manager in negotiating agreements with the Space Shuttle Program, Launch Services Program, and the Air Force (45<sup>th</sup> and 30<sup>th</sup> SW), to secure a safety console position in both Air Force Operations Centers for NASA launch operations. For both programs, a Memorandum of Understanding defining roles and communication links between NASA Range Safety, the SMA Director and the Ranges was coordinated and signed to document the process.

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In addition, the Range Safety Program made significant contributions to the STS-114 Return-To-Flight and participated in the development of new emerging technologies that will enhance the safety of NASA range operations. These accomplishments are discussed in the following pages before moving on to special interest items, status reports and the 2005 launch summary.

