

1.0 INTRODUCTION

Wide - Field Infrared Explorer (WIRE) is one of the Small-class Explorer (SMEX) missions. It will perform a four-month survey to detect primarily galaxies with unusually high star formation rates, or "Starburst" galaxies. WIRE will collect and analyze in 12 and 25 μm infrared colored bands at sensitivity levels bounded by the telescope's 25 μm confusion limit. The WIRE survey will cover from 10 to over 100 square degrees of sky, depending on the flux level where the WIRE 25 μm confusion limit is reached.

1.1 PURPOSE

The purpose of this Missile System Prelaunch Safety Package (MSPSP) is to document compliance with the requirements of Eastern and Western Range Safety Requirements (EWR) 127-1. Hazards related to the design, integration, transportation, handling, and launch of the WIRE spacecraft using the Pegasus-XL Launch Vehicle are identified. The MSPSP documents also provides the initial assessment of hazards and identifies design changes, safety devices, warning devices, or procedural controls to be imposed on system elements to preclude (or minimize) the probability of occurrence of a mishap that could cause injury to personnel or damage to equipment.

This MSPSP meets the reporting requirements of EWR 127-1, of 31 March 1995, and meets the guidelines for documentation per Orbital Sciences Corporation (Orbital) Pegasus Safety requirements. This document also serves to demonstrate that the requirements and procedures are met to obtain flight and ground payload safety approval.

1.2 SCOPE

The information provided by this MSPSP is based on the WIRE spacecraft design information available as of May 22, 1998. This WIRE MSPSP includes the data required by EWR 127-1 including the identification and discussion of any non-compliant items. This MSPSP provides a Verification Tracking Log (VTL) in Appendix A that documents the close-out of all remaining safety verifications. This MSPSP also certifies that the WIRE spacecraft complies with the requirements established by the Western Range (WR). The primary systems and operations addressed in this MSPSP are the WIRE spacecraft and instrument, its associated ground support equipment (GSE), launch vehicle interfaces, and facilities.

1.3 APPLICABLE DOCUMENTS

Listed below are applicable safety-related documents and guidelines used for WIRE design, testing, processing, and operations:

EWR 127-1	Eastern and Western Range Safety Regulations, 31 March 1995
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K-SF-0003.7	Kennedy Space Center (KSC) Ground Safety Plan Off-Site Facility
SSD TD-0018	Pegasus Requirements Document for Ground Operations
SSD TD-0005	Pegasus Design Safety Requirements Document
GSFC S-740-89-978	System Safety Implementation Plan for Small Explorer (SMEX) Spacecraft, Rev. A (AUG 90)
MIL-STD-1522A	Standard General Requirements for Safe Design and Operation of Pressurized Missile and Space Systems
GMI	Design Inspection, and Certification of Lifting Devices and Equipment
NSS/GO-1740.9	Design Inspection, and Certification of Lifting Devices and Equipment
ANSI C95.1-1982	American National Standard Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 30 KHz to 100 GHz.
GHB 1860.2	Radiation Safety Handbook
NEC, Article 500	Explosion Proof Hardware Specifications
NHB 1700.1	NASA Safety Policy and Requirements Document