

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)
MILSTAR I AND II SATELLITE VEHICLE
CAPE CANAVERAL AFS, FLORIDA**

1.0 INTRODUCTION

The U.S. Air Force (USAF) proposes to launch six Milstar Satellites from Cape Canaveral Air Force Station (CCAFS), Florida, using a Titan IV launch vehicle with a Centaur upper stage (Titan IV/Centaur). The primary mission of Milstar is to provide the next generation of Military Satellite Communication (MILSATCOM) systems to complement Navy's Fleet Satellite Communication System, Air Force's Satellite Communication System, and Defense Satellite Communications System. Milstar is the first MILSATCOM designed, from its inception, for joint-service use, primarily using extremely high frequency (EHF) waveform. Milstar is required to provide integrated defense communication controlled from a small, continental United States-based force structure.

2.0 PROPOSED ACTION

The proposed action is to form a six-satellite constellation consisting of two types of satellite vehicles (SVs). The first three SVs are designated Milstar I; satellites four through six are referred to as Milstar II. Milstar I SVs are capable of Low Data Rate transmission. Milstar II SVs will be capable of Low Data Rate and Medium Data Rate transmission. The constellation should be in place by the year 2000. Milstar Satellites will be launched from CCAFS Launch Complex 40 or Launch Complex 41.

Milstar Satellites will be controlled from a fixed ground station at Falcon Air Force Base (AFB), Colorado. Additionally, five Milstar Mobile Constellation Control Stations (MMCCSs) will be used to control and/or communicate with the Milstar constellation from sites throughout the continental United States. Each MMCCS will be capable for independently controlling the Milstar constellation in the event that the fixed control station at Falcon AFB or other MMCCSs are destroyed.

The No-Action Alternative is not acceptable as this would not allow tactical commanders to communicate in a jamming environment.

An alternative to the proposed action is to rely on separate, existing military satellite communication systems and out-dated technology. This alternative is not acceptable as it will significantly reduce command and control communications capability and access to battle management data in a jamming environment.

3.0 SUMMARY OF ENVIRONMENTAL IMPACTS

This environmental assessment (EA) consists of identifying the potential impacts of processing Milstar SVs at the Spacecraft Processing and Integration Facility (SPIF), the Payload Spin Test Facility (PSTF), and Launch Complex Universal Environmental shelter (UES) on the natural and manmade environment at CCAFS, Florida. The EA also provides an assessment of the potential environmental effects from the orbiting satellite. A summary of findings is given below.

Air Quality

Processing Milstar SVs will not violate any Florida Department of Environmental Regulation (FDER) air toxic regulations. Other air pollutants generated during satellite processing would be temporary and should result in no significant impact.

During processing operations at the PSTF, SPIF, and UES, emissions from the boilers or standby generator are not expected to result in any significant impact. During tanking operations, emissions of monomethyl hydrazine (CH_6N_2 [MMH]), nitrogen tetroxide (N_2O_4), or unsymmetrical dimethylhydrazine ($\text{C}_2\text{H}_8\text{N}_2$ [UDMH]), if used, will not cause off-site exceedances of state air toxic regulations. Based on the relatively short duration and infrequent occurrence of the tanking operation during the year, the predicted ambient concentrations should pose no threat to the health of the off-site population. Predicted MMH, N_2O_4 , or UDMH emissions do not exceed the Occupational Safety and Health Administration (OSHA) worker protection standards for on-site employees.

Proposed air emissions for processing Milstar SVs are permitted by Florida Department of Environmental Regulation. Air emission permits for the UES at Launch Complex 40 or Launch Complex 41 will have to be amended to allow for MMH emissions from Milstar SV fueling operations. Air emission permits for the PSTF will have to be amended to allow for UDMH emissions, if UDMH is used. The fuel and oxidizer handling system at Fuel Storage Area (FSA-1) are not permitted by the state. Negotiations are now underway to acquire an FDER permit(s) for this facility.

There will be no significant impact on stratospheric ozone due to unexpected reentry of the satellite into the atmosphere or from the satellite's thermal protection system during the launch.

Water Quality

Milstar SV processing at CCAFS will not result in significant impacts on surface water or groundwater quality or hydrology. Drainage will be blocked during propellant loading operations. Stormwater runoff will not be altered by Milstar SV processing. No permit modifications will be necessary for Milstar SV processing due to stormwater discharge, sewage treatment, potable water use, industrial waste water, or wetlands.

Geology and Soils

Processing Milstar Satellites will not alter site geology and will not alter site soils. Impacts to geology or soils are not expected.

Biota

Processing the Milstar SVs will use the existing PSTF, SPIF, and UES. Therefore, no land clearing or construction will be required. Activities required for satellite processing will not deviate from current practices at the SPIF. No habitat will be disturbed by Milstar SV processing. Therefore, no threatened or endangered species will be impacted. Adherence to the CCAFS “Light Management Plan Guidelines” will assure that satellite processing will have no impact on turtle hatchlings.

Socioeconomics and Population

Of the estimated 180 personnel to be used for satellite processing, none are required to be relocated from outside Brevard County, Florida. Therefore, no increase in population is anticipated. Milstar SV processing will not cause impact on local population, housing, infrastructure, schools, or transportation. The economic impact of SV processing personnel using temporary lodging facilities (hotels) and restaurants will have a slight positive impact on the economy.

Waste

The UES, where MMH and N₂O₄ tanking will be performed, has a catch basin to hold propellant spills. The SPIF and PSTF have parallel sanitary sewer and emergency floor drains. The sanitary sewer is plugged during the MMH fueling operation. The emergency spill floor drain is connected to a sump and is used only for large spills of hazardous liquids. Small spills are cleaned with sponges. Solids contaminated with propellant are collected in 55-gallon drums and disposed as hazardous waste. The Eastern Test Range (ETR)/National Aeronautics and Space Administration (NASA) Joint Propellants Contractor will be reasonable for disposal of wastes in accordance with state and federal regulations. Scrubber liquor from the MMH scrubber is non-hazardous and is disposed in the hypergolic incinerator by the ETR/NASA Joint Propellants contractor. The hypergolic incinerator has an air emissions permit. Absorbent pads are placed under the portable generator in a drip pan in the event of a diesel spill. Used pads will be removed and disposed as necessary by the ETR/NASA Joint Propellants Contractor. With the use of proper contaminant and adherence to waste handling/disposal practices, no adverse impact is expected. All procedures will follow Air Force Materiel Command Regulation 500-13 on pollution prevention.

Health and Safety

Risks associated with processing, launching and operation of the Milstar SV Program were qualitatively analyzed through comparison of severity, probability, and level affected of events. This analysis indicates no significant impact to personnel, SV, nor structures.

Each of the scenarios analyzed were considered acceptable because of their resulting ranking of severity, probability is the chance of occurrence; and level affected (severity is the measurement of magnitude; probability is the chance of occurrence; and level affected is related to the number of people, amount of the SV, and/or number of structures involved). The analysis assumes that all existing regulations and standards are followed to their fullest extent.

Health factors associated with the Milstar Program have been addressed and reviewed with comparison to the appropriate regulations and found to pose no significant impacts.

Noise

Noise generated at the PSTF, SPIF, and UES will be typical of an urban industrial area. Noise will occur infrequently and be of short duration. Thus, there will be no significant impact from noise.

Radio Frequency Radiation

Air Force Occupational Safety and Health (AFOSH) Standard 161-9 is used as the criterion for determining permissible exposure limits (PELs) for RF radiation. PELs are expressed as power densities averaged over any 6-minute exposure time. Operating parameters of the EHF antennas are classified, but it is assumed that the EHF antenna operates in the gigahertz frequency range and, thus, the associated PELs would be 10 mW/cm² for restricted areas and 5 mW/cm² for unrestricted areas (based on AFOSH 161-9 criteria). Adherence to safety procedures for installation of EHF and UHF antennas, as well as safety distances while operating, will eliminate RF radiation exposure risks.

Cultural Resources

No land clearing, construction, or disturbances of existing facilities will occur because of Milstar Satellite processing. Use of the SPIF for processing Milstar SVs will not impact historic or archaeological resources at CCAFS.

4.0 FINDINGS

Based on the preceding discussion, a Finding Of No Significant Impact (FONSI) is made. A current EA and FONSI exist for the launch vehicle and fixed communication center. No significant impacts were indicated in EAs prepared for the launch vehicle at CCAFS or construction of the fixed ground control station at Falcon AFB. An Environmental Assessment of the proposed action, dated Jan 1994, can be obtained from:

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2420 Vela Way
Suite 1467
Los Angeles AFB, California 90245-4659
Attn: Capt Bart Hedley

APPROVED: Environmental Protection Committee

06 JAN 1993

A handwritten signature in black ink, appearing to read "Eugene L. Tattini". The signature is written in a cursive, somewhat stylized script.

Eugene L. Tattini
Brigadier General, USAF
Chairperson, SMC Environmental
Protection Committee

APPROVED: Environmental Protection Committee

A handwritten signature in black ink, appearing to read "Robert S. Dickman", with a long horizontal flourish extending to the right.

JUL 20 1993

Commander, 45th Space Wing
Chairperson, 45th Space Wing
Environmental Protection Committee
Brig. General Robert S. Dickman