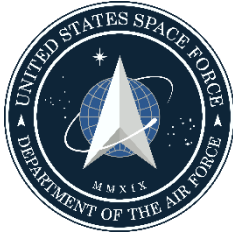


**BY ORDER OF THE COMMANDER
SPACE LAUNCH DELTA 45**

**SPACE LAUNCH DELTA 45
INSTRUCTION 91-204**



**12 SEPTEMBER 2023
Certified Current, 7 May 2024
Safety**

**LAUNCH VEHICLE ON-
BASE RISK MITIGATION PRACTICES**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction supplements the Air Force Instruction (AFI) 91-202 Space Systems Command Supplement (SSCSUP), *The US Air Force Mishap Prevention Program*, Space Launch Delta 45 Instruction (SLD45I) 91-206, *Danger Area Information Plan* and the SLD 45 Installation Emergency Management Plan (IEMP) 10-2. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. Submit requests for waivers through the chain of command to the Publication OPR for non-tiered compliance items.

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1. General Policy. All personnel must be protected from toxic dispersion, distant focusing overpressure (DFO), and inert/explosive debris (hereafter termed “launch hazards”) during launches, landings, and static fires (hereafter termed “launch”) from Cape Canaveral Space Force Station (CCSFS) and/or Kennedy Space Center (KSC).

1.1. Toxic Dispersion Hazard.

1.1.1. The exhaust plume from solid rocket motors (SRMs) and solid rocket boosters (SRBs) contains hazardous materials (primarily hydrogen chloride, an irritant gas). In the event of a catastrophic failure of a launch vehicle early in flight, hypergolic propellant (i.e., hydrazines, nitrogen tetroxide and their combustion products) may also be present. Under certain meteorological conditions, these hazardous substances may drift over CCSFS in concentrations greater than known exposure standards permit.

1.1.2. During day of launch (DOL) mission preparations, on-base personnel within the T-0 forecasted Potential Hazard Corridor (PHC) will be provided access to a launch toxic shelter, identified by a brown sign, to ensure they are not exposed to hazardous concentrations above known exposure limits. Alternatively, they will be relocated to an unaffected area.

Figure 1. Launch Shelter Sign.



1.2. Distant Focusing Overpressure (DFO).

1.2.1. In the event of a catastrophic launch vehicle failure resulting in a significant explosion, if certain meteorological conditions are prevalent, the emanating shock waves may be turned back towards the ground resulting in DFO. The focusing of these waves can produce increased overpressures at various locations resulting in window breakage and personnel injury.

1.2.2. On-base personnel in facilities that are within an area of increased DFO risk will be instructed to move to an interior portion of the facility or outside the facility, away from windows, approximately 5 minutes prior to T-0.

1.3. Debris Impact Hazard.

1.3.1. In the event of a catastrophic launch vehicle failure, the resulting debris associated with the vehicle will fall to the ground. Primary and secondary effects of inert and explosive debris impact may cause personnel injury.

1.3.2. On-base personnel (CCSFS and KSC workers) in facilities or in the open that are within an area of increased debris (inert/explosive) risk (exceeding debris criteria) will be instructed to relocate to an unaffected area.

1.4. Launch Risk Forecast. SLD 45 Safety (SLD 45/SE) will provide a mission specific Launch Risk Forecast product that details the risks associated with launch hazards.

1.4.1. Launch risk estimates will be continuously updated in support of the launch operation with results posted on the SLD 45 Launch Risk Forecast website, <https://axientcorp.sharepoint.us/:f/t/LRFlaunchriskforecast>. To gain access to this site please direct any/all requests for access to the new SLD 45/SEL Launch Risk Forecast Web Site to Mr. Tom Michaud (thomas.michaud.2.ctr@spaceforce.mil) or contact SLD 45/SEL at 321-494-5845.

1.4.2. Generally, T-0 forecasted debris (inert/explosive) risk analysis will be available at L-72 hours. T-0 forecasted toxic dispersion risk analysis will be available at L-48 hours. T-0 forecasted DFO risk analysis will be available at L-24 hours. All risk analyses will be updated continually based on available meteorological data.

2. Purpose. This instruction establishes procedures to ensure that all CCSFS personnel and visitors can be protected from launch hazards resulting from any vehicle launched from either CCSFS or KSC.

3. Structure. This instruction covers required employee education, employee notification during launches, on-base risk mitigation for employees and visitors, and the responsibilities for the procedures provided in this instruction.

3.1. Employee Education. According to AFI 90-821, *Hazard Communication*, and the Hazard Communications (HAZCOM) Standard (29 Code of Federal Regulations (CFR) 1910.1200), all organizations at CCSFS will educate their employees concerning hazardous materials they may be exposed to on the job. This includes launch hazards awareness training for the entire CCSFS work force. Therefore, as part of the employee's initial in-processing and training, supervisors will ensure personnel are trained on the contents of this instruction. Contractors operating on CCSFS will educate employees in accordance with their contractual obligations and will be responsible for their own employee health and safety programs.

3.1.1. Once a new employee has received training, the supervisor will document this training in the employee's personnel records. In addition, supervisors will ensure employees know where their assigned launch toxic shelters are located for their place of duty along with what Aural Warning Zone (AWZ) it is located within, and will update the training as changes occur.

3.2. Employee Notification During Launches. SLD 45/SE, will evaluate the potential for launch hazard risk based on current meteorological conditions using SLD 45/SE physics models. SLD 45/SE will determine which CCSFS/KSC areas are at an increased risk by any or all of these hazards.

3.2.1. Scheduled Launch Announcement. Cape Support will broadcast Message 1 (**Attachment 2**) via the Cape Aural Warning System (CAWS) every 4 hours (i.e., twice per shift) starting 2 days prior to the scheduled launch, or later if the launch date is still classified at that time. On launch day, Cape Support will broadcast Message 1 at L-242 minutes and L-182 minutes. Cape Support will contact the Instrumentation Superintendent of Range Operations (ISRO) before each broadcast to avoid conflicting with operational announcements. This message alerts the CCSFS population of the upcoming launch and potential need for launch toxic shelters.

3.2.2. Launch Toxic Shelter Identification Announcement. If specific areas of CCSFS fall within the forecasted PHC, SLD 45/SE will advise Cape Support to broadcast applicable portions of Message 2 (**Attachment 3**), at L-122 minutes, L-97 minutes, and L- 72 minutes. Before the first announcement, Cape Support will contact the ISRO for clearance to broadcast Message 2 on this schedule. If SLD 45/SE requires announcements on a different schedule, Cape Support will contact the ISRO for clearance before each broadcast.

3.3. **On-base Risk Mitigation.** All employees and visitors on CCSFS within the PHC and/or an area of increased risk from DFO or debris (inert/explosive) will be provided appropriate risk mitigation options, or will be required to relocate to another location. This ensures they are not exposed to hazardous chemical concentrations above known exposure standards or to risk associated with glass breakage or debris (inert/explosive) impact resulting from the launch or catastrophic failure of the launch vehicle.

3.3.1. Risk Mitigation Announcement. If specific areas of CCSFS fall within the forecasted PHC or within an area of increased DFO risk, SLD 45/SE will advise Cape Support to broadcast applicable portions of Message 3 (**Attachment 4**), at L-57 minutes, L-32 minutes, and L-17 minutes. Before the first announcement, Cape Support will contact the ISRO for clearance to broadcast Message 3 on this schedule. If SLD 45/SE requires announcements on a different schedule, Cape Support will contact the ISRO for clearance before each broadcast.

4. Roles and Responsibilities.

4.1. **Identifying and Certifying Buildings as Launch Shelters for Mitigation of Toxic Hazards.** Buildings on CCSFS that meet the protection requirements for approved launch shelters have been identified. Additional buildings will be tested and designated as launch shelters as specified by SLD45I 91-710, *Launch Shelter Certification Process*.

4.1.1. A current listing of approved launch shelters can be provided by contacting SLD 45/SE. **Note:** This shelter list is continually under revision and will be updated on a regular basis.

4.2. **Launch Shelter Procedures for Mitigation of Toxic Hazards.** Facility Managers will establish procedures that prepare a certified launch shelter for launches. These procedures must address, as required, closing all doors and windows and turning off ventilation systems that draw air from the outside. Specific guidance on developing launch shelter procedures can be found in SLD45I 91-710.

4.2.1. During duty hours, all Facility Managers for buildings designed as launch shelters will be considered as launch essential and must ensure that their building is available for shelter.

4.2.2. During non-duty hours, shelters that would normally be unoccupied during the launch period need not be opened merely for shelter purposes and the Facility Manager or representative is not considered launch essential.

4.2.3. During launch operations when a shelter is opened (unlocked), a responsible person must be designated to ensure that all shelter procedures are effectively implemented for that facility.

4.2.4. All organizations must ensure that their employees know where appropriate launch shelters are located for their place of duty and have a clear understanding of the AWZs (**Attachment 9**). Supervisors must ensure employees know where their primary and alternate shelters are located for both normal duty hours and other than normal duty hours, or if the primary or alternate shelter is not available for the planned launch period.

4.2.5. Shelter activation will be based on T-0 forecasted and real-time meteorological data along with SLD 45/SE physics models. SLD 45/SE, in coordination with Bioenvironmental Engineer (BE), will continue to evaluate conditions and confirm which CCSFS areas are within the PHC.

4.3. **Real-Time Notification.**

4.3.1. After SLD 45/SE has determined affected areas, they will advise Cape Support to broadcast applicable portions of Message 3 (**Attachment 4**), via CAWS, at L-57 minutes, L-32 minutes, and L-17 minutes. Before the first announcement, Cape Support will contact the ISRO for clearance to broadcast Message 3 on this schedule; if SLD 45/SE requires announcements on other than the above schedule, Cape Support will contact the ISRO for clearance before each broadcast.

4.3.2. Upon receipt of Message 3, each Facility Manager in designated/approved launch shelters in affected areas will secure their building IAW established procedures. Organizational Commanders and/or managers, or their representative, in each facility will ensure that their employees are following the announcements as they are being conveyed via CAWS.

4.3.3. Personnel on CCSFS will proceed to their assigned shelters, or identified evacuation point, as dictated by the broadcast message. It is not necessary at this time to enter and remain in the shelter. Employees may observe the launch from areas immediately outside their shelter, as long as they can enter and secure the shelter without delay when necessary.

4.3.4. In the event of a catastrophic launch vehicle failure prior to time off the beach, Cape Support, upon direction from SLD 45/SE, will broadcast Message 4 (**Attachment 5**) as a precautionary measure, via CAWS, and will repeat it 10 and 20 minutes after the accident. All affected personnel, as designated by Message 4, will respond as directed. Each Facility Manager will ensure their shelter is secure with all doors and windows closed. Ventilation systems will be secured IAW the pre-approved facility launch shelter procedure checklist. Cape Support will contact the ISRO for clearance to broadcast Message 4 on this schedule.

4.3.5. In the event of a catastrophic launch vehicle failure prior to time off the beach when the exhaust plume affects specific areas of CCSFS, SLD 45/SE will advise Cape Support to broadcast Message 5 (**Attachment 6**), via CAWS, and will repeat as directed by SLD 45/SE. Before broadcasting, Cape Support will contact the ISRO to avoid conflicting with the Audible Plus Count system or other required operational messages. All personnel in the affected areas will enter their shelter at once. The Facility Manager will ensure the shelter is secured IAW the pre-approved facility launch shelter procedure checklist.

4.3.6. When SLD 45/SE, in coordination with BE and the Emergency Operations Center (EOC) Director, determines hazardous conditions no longer exist, SLD 45/SE will direct Cape Support to broadcast one of the applicable all-clear messages via CAWS, Message 6 (**Attachment 7**) or Message 7 (**Attachment 8**). At this time, normal activities may resume, ventilation systems may be restored, and normal access procedures reestablished. **Note:** To determine if a facility is inside an identified affected area prior to launch day, contact SLD 45/SEL at (321) 494-5845.

4.3.7. In the event of a normal launch when pre-launch mitigating actions were required, to include the use of Message 2 (**Attachment 3**) and/or Message 3 (**Attachment 4**), Message 7 (**Attachment 8**) should be made no earlier than T+5 minutes to avoid conflict with the Audible Plus Count system. Cape Support will contact the ISRO before broadcasting to avoid conflicting with required operational messages.

4.4. Launch Security Procedures. Security Forces or designated launch service providers will be posted according to the mission specific Operational Plan and Roadblock Access letter.

4.4.1. Security Forces or designated launch service providers vehicles that are equipped with public address systems and are on patrol within activated AWZs will be used to inform all personnel of their AWZ and the need to seek shelter. Launch Security personnel should comply with all CAWS announcements.

4.4.2. Security Forces or designated launch service providers who observe individuals or groups gathering in non-approved areas (i.e., non-approved visitor locations as conveyed in the Launch Readiness Review, Mobile Service Towers, rooftops, antenna platforms, non-approved launch sheltering areas during sheltering conditions) to watch a launch will direct the individuals to disperse and proceed to their approved shelter, if required.

4.4.2.1. Security Forces or designated launch service providers will inform the EOC Director of compliance with toxic sheltering announcements when announcements are required. As a member of the EOC Team, the Pad Safety Manager will convey field status to the Risk Assessment Center (RAC). This information will act as confirmation to the RAC that recommended mitigating actions are being taken.

4.4.3. Pre-coordinated Traffic Control Points (TCPs), as outlined in the Roadblock Access letter, may not be moved without SLD 45/SE approval in order to ensure personnel are not needlessly placed at risk.

4.4.4. If required, additional TCPs will be established to control access to areas within the PHC, using on-duty security forces patrols as directed by EOC, in emergency situations, and through approval by CCSFS Security Forces Operations.

4.5. Official Visitor Procedures. Certain categories of individuals who do not directly support launch operations (i.e., distinguished guests, media, contractors, program representatives, and launch team family members), may be permitted on CCSFS to view launches. These persons will be included in all risk analyses and will be assessed against current launch commit criteria as given in AFI 91-202 SSCSUP, *The US Air Force Mishap Prevention Program*, or 14 CFR 450, *Launch and Reentry License Requirements*, as applicable.

4.5.1. Organizations that sponsor visitors for launch viewing must ensure that ALL visitors are aware of the following and adhere to section 4.5.1.6:

4.5.1.1. The AWZs provided at [Attachment 9](#).

4.5.1.2. The messages contained in the attachments of this instruction.

4.5.1.3. The need to follow instructions conveyed in each CAWS message.

4.5.1.4. The location of the designated launch shelter or evacuation point, when applicable.

4.5.1.5. If sheltering is required in their AWZ and adequate sheltering is not available, visitors must proceed to an approved alternate viewing location.

4.5.1.6. Organizations sponsoring visitors, including distinguished guests and the media, must assign a point of contact (POC) for their visitors. It is the responsibility of the visitor POC to contact the RAC IAW contact information as conveyed at the Delta Launch Readiness Review and/or Time off the Beach email in support of each mission two hours prior to launch, or before departing for their designated viewing location, to verify that no sheltering issues exist and that they can populate their viewing location.

4.6. Launch Essential/Neighboring Operations Personnel Inside Affected Areas. Based on risk modeling output associated with launch hazards, the SLD 45 Commander (CC) or designated representative will direct personnel to either evacuate the affected area, seek shelter in an approved launch shelter, or will halt the launch. Launch essential and/or neighboring operations personnel whose duties necessitate that they remain in place, either in the open or not in an approved launch toxic shelter, therefore not able to pre-clear from a PHC, must:

4.6.1. Have a SLD 45/SE approved post-accident emergency egress capability with egress routes based on real-time toxic modeling.

4.6.2. Be physically qualified, trained/certified, and equipped for use of a Self-Contained Breathing Apparatus (SCBA), the BE approved personal protective equipment.

4.7. Facility Delayed Evacuation Process.

4.7.1. The following facility delayed evacuation process is designed to reduce the impact to operations resulting from launches (ascent) and landing (descent) operations. This process will allow facilities under control of military organizations, or federal government agencies (for civilian agencies) that are inside the Flight Caution Area (FCA) or Flight Hazard Area (FHA), designated in a mission specific Roadblock Access letter, to be evacuated as late as 75 minutes prior to the opening of the launch window. **NOTE:** This means personnel already within requested facilities inside the FCA/FHA will be allowed to remain in those facilities until no later than L-75 minutes. However, once FCA/FHA roadblocks are established, personnel will be prevented from entering the FCA/FHA after they depart those areas. The total evacuation of the identified facilities by the required time shall be the responsibility of the requesting military commander or director of the federal government agency in charge of those facilities.

4.7.2. For each mission where a delayed evacuation will be requested, a letter (sample [Attachment 10](#)) signed by the responsible military commander or federal government manager (for civilian agencies) shall be submitted to SLD 45/CC (with soft copies cc to SLD 45/SE, Space Launch Delta 45 Launch Safety (SLD 45/SEL), and SLD 45/SIO/CC) no later than (NLT) initial launch capability minus 5 days, containing the following information:

4.7.2.1. Specific mission impacted (e.g., Falcon 9/CRS-13).

4.7.2.2. Acknowledgement of FCA/FHA that must be cleared to ensure compliance with overall aggregated risk criteria and/or individual risk.

4.7.2.3. Statement that the organization has a process in place to ensure their personnel in identified facilities (list the facilities by name and number) will evacuate outside of the FCA/FHA no later than 75 minutes prior to T-0. If evacuated personnel are going to congregate in one area outside of the FCA/FHA on CCSFS or KSC, this area needs to be identified in the letter so that risk analysis can appropriately account for this additional population location.

4.7.2.4. Designate a point of contact (name/phone number that can be reached during countdown, also include a cell phone number) from the organization responsible for contacting the Risk Assessment Center (RAC) IAW contact information as conveyed at the Delta Launch Readiness Review and/or Time off the Beach email in support of each mission at NLT T-60 minutes to verify that all personnel in the identified facilities have evacuated to areas outside of the FCA/FHA.

4.7.2.5. Statement acknowledging that failure to comply with this letter may result in a launch scrub and/or termination of the opportunity to evacuate at the agreed to T-75 minutes timeline for the future launches or landings.

4.8. Bioenvironmental Engineering (BE) Support.

4.8.1. DOL BE (45th Operational Medical Readiness Squadron (45 OMRS)) support is required for all vehicles launching from KSC or CCSFS that could pose a toxic dispersion risk, as determined by SLD 45/SEL. A BE representative in the RAC acts as the POC for the field team. The Field Support Team is deployed into the PHC and will take readings/samples in the case of a catastrophic failure of the launch vehicle.

4.8.1.1. The BE representative will coordinate with SLD 45/SEL to finalize a staging area, determine what hazards to monitor for, and arrive at the RAC at least two hours prior to launch.

4.8.1.2. The BE Field Support Team will be in place with proper protective equipment and monitoring devices downwind of the PHC, at least one hour prior to launch.

4.8.1.3. All BE Field Support Team members will be ready to suit up in Level B, which includes Tychem suit, gloves, boots and SCBA.

4.8.1.4. In the case of a catastrophic launch vehicle failure prior to launching off CCSFS/KSC launch pad, the field team will record real-time readings and may relay this information through their POC to the toxic dispersion risk analyst in the RAC. Additionally, BE will provide readings, to include corresponding concentrations (ppm) and toxic plume timing, to SLD 45/SE within 48 hours of the launch accident.

STEPHEN G. PURDY, JR.
Major General, USSF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 33-322, *Records Management and Information Governance Program*, 28 July 2021

AFI 90-821, *Hazard Communication (HAZCOM) Program*, 13 May 2019

AFI 91-202 SSCSUP, *The US Air Force Mishap Prevention Program*, 5 September 2023

AFPD 91-1, *Nuclear Weapons and Systems Surety*, 24 October 2019

SLD45I 91-206, *Danger Area Information Plan*, 05 May 2023

SLD45I 91-710 *Launch Shelter Certification Process*, 26 August 2021

SLD 45 IEMP 10-2, *Installation Emergency Management Plan 10-2*, 18 January 2023

14 CFR 450, *Launch and Reentry License Requirements*

29 CFR 1910.1200, *Hazard Communication*

Adopted Forms

DAF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

45 OMRS—45th Operational Medical Readiness Squadron

AFI—Air Force Instruction

AFPD—Air Force Policy Directive

AWZ—Aural Warning Zone

BE—Bioenvironmental Engineer

CAWS—Cape Aural Warning System

CCSFS—Cape Canaveral Space Force Station

CFR—Code of Federal Regulations

DFO—Distant Focusing Overpressure

DOL—Day of Launch

EOC—Emergency Operations Center

FCA—Flight Caution Area

FHA—Flight Hazard Area

IAW—in accordance with

ISRO—Instrumentation Superintendent of Range Operations

KSC—Kennedy Space Center

OPR—Office of Primary Responsibility

PHC—Potential Hazard Corridor

POC—Point of Contact

RAC—Risk Assessment Center

SCA—Special Clear Area

SCBA—Self-Contained Breathing Apparatus

SLD 45—Space Launch Delta 45

SLD 45/SE—Space Launch Delta 45 Safety

SLD 45/SEL—Space Launch Delta 45 Launch Safety

SLD 45/SELF—Space Launch Delta 45 Launch Safety Flight Analysis

SLD 45/SI—Spaceport Integration

SLD45I—Space Launch Delta 45 Instruction

SRB—Solid Rocket Booster

SRM—Solid Rocket Motor

TCP—Traffic Control Points

Attachment 2

MESSAGE 1 SCHEDULED LAUNCH ANNOUNCEMENT

Figure A2.1. Message 1 Scheduled Launch Announcement.

Cape Support will broadcast this announcement via the Cape Aural Warning System across all Aural Warning Zones starting at L-48 hours, repeating every 4 hours. This schedule may be delayed if the launch date is classified; in this case, the first announcement will be made as soon as possible after release. On launch day, Cape Support will broadcast this announcement at L-242 minutes and L-182 minutes: SLD 45/SE will direct additional announcements as needed.

A LAUNCH FROM COMPLEX _____ IS SCHEDULED FOR _____ (*DATE*)
WE WILL USE THE CAPE AURAL WARNING SYSTEM TO ADVISE YOU OF
REQUIRED ACTIONS. YOUR COOPERATION IS ESSENTIAL TO AVOID PERSONAL
RISK OR INJURY.

(REPEAT ENTIRE ANNOUNCEMENT)

Note: Before each broadcast, Cape Support will contact the Instrumentation Superintendent of Range Operations to avoid conflicting with countdown announcements.

Attachment 3

MESSAGE 2 LAUNCH SHELTER IDENTIFICATION ANNOUNCEMENT

Figure A3.1. Message 2 Launch Shelter Identification Announcement.

At the direction of SLD 45/SE, Cape Support will broadcast this announcement to affected Aural Warning Zones via the Cape Aural Warning System at L-122 minutes, L-97 minutes, and L-72 minutes.

ATTENTION EVERYONE IN AURAL WARNING ZONE(S): (SLD 45/SE WILL SPECIFY AREA(S)) THE LAUNCH FROM COMPLEX _____ IS SCHEDULED FOR LIFTOFF AT APPROXIMATELY _____. EVERYONE WITHIN THESE AREAS MUST IDENTIFY THEIR LAUNCH TOXIC SHELTER. APPROVED LAUNCH TOXIC SHELTERS ARE IDENTIFIED WITH A BROWN SIGN AT THE MAIN FACILITY ENTRANCE. IF YOU ARE NOT IN AREAS JUST DESCRIBED, YOU MAY CONTINUE NORMAL OPERATIONS.

(REPEAT ENTIRE SLD 45/SE INSTRUCTED ANNOUNCEMENT)

Note: Cape Support will contact the Instrumentation Superintendent of Range Operations before the first announcement and before each subsequent announcement on the above schedule.

Attachment 4

MESSAGE 3 – RISK MITIGATION ANNOUNCEMENT

Figure A4.1. Message 3 – Risk Mitigation Announcement.

At the direction of SLD 45/SE, Cape Support will broadcast this announcement to affected Aural Warning Zones via the Cape Aural Warning System at L-57 minutes, L-32 minutes, and L-17 minutes.

A) ATTENTION EVERYONE IN AURAL WARNING ZONE(S): (SLD 45/SE WILL SPECIFY AREA) THE LAUNCH FROM COMPLEX IS SCHEDULED FOR LIFTOFF AT APPROXIMATELY _____ . DUE TO THE RISK ASSOCIATED WITH TOXIC DISPERSION, PROCEED TO YOUR DESIGNATED LAUNCH TOXIC SHELTERS. APPROVED LAUNCH TOXIC SHELTERS ARE IDENTIFIED WITH A BROWN SIGN AT THE MAIN FACILITY ENTRANCE. YOU MUST LEAVE ALL OPEN HANGAR BAYS NOW. LAUNCH SHELTER MANAGER; ACTIVATE YOUR LAUNCH TOXIC SHELTER NOW. IF YOU ARE NOT IN LOCATIONS JUST DESCRIBED, YOU MAY CONTINUE NORMAL OPERATIONS.

B) ATTENTION EVERYONE IN AURAL WARNING ZONE(S): (SLD 45/SE WILL SPECIFY AREA) THE LAUNCH FROM COMPLEX IS SCHEDULED FOR LIFTOFF AT APPROXIMATELY _____ . DUE TO THE RISK ASSOCIATED WITH DISTANT FOCUSING OVERPRESSURE, ALL AFFECTED PERSONNEL MUST MOVE AWAY FROM WINDOWS TO AN INTERIOR PORTION OF THEIR FACILITY OR OUTSIDE THE FACILITY APPROXIMATELY 5 MINUTES PRIOR TO T-0. IF YOU ARE NOT IN LOCATIONS JUST DESCRIBED, YOU MAY CONTINUE NORMAL OPERATIONS. (REPEAT ENTIRE SLD 45/SE INSTRUCTED ANNOUNCEMENT)

Note 1: Cape Support will contact the Instrumentation Superintendent of Range Operations before the first announcement and before each subsequent announcement on the above schedule.

Note 2: Depending on vehicle configuration, launch day meteorological conditions, and affected areas, SLD 45/SE may specify Message 3A, 3B, or both 3A and 3B in multiple/various Aural Warning Zones.

Attachment 5

MESSAGE 4 – ACCIDENT ANNOUNCEMENT

Figure A5.1. Message 4 – Accident Announcement.

At the direction of SLD 45/SE, in the case of a catastrophic launch abort, Cape Support will broadcast the following announcement via the Cape Aural Warning System across all Aural Warning Zones, repeating at T+10 minutes and T+20 minutes. SLD 45/SE will provide Cape Support with launch specific detailed messages by L-10 minutes.

A) ATTENTION EVERYONE AT CAPE CANAVERAL SPACE FORCE STATION. YOU ARE IN NO IMMEDIATE DANGER FROM THE _____ ACCIDENT. REPEAT – YOU ARE IN NO IMMEDIATE DANGER FROM THE _____ ACCIDENT. AS A PRECAUTIONARY MEASURE, REMAIN IN PLACE. FURTHER INSTRUCTIONS WILL BE PROVIDED OVER THE CAPE AURAL WARNING SYSTEM.

B) ATTENTION EVERYONE AT CAPE CANAVERAL SPACE FORCE STATION. THERE HAS BEEN A LAUNCH ACCIDENT INVOLVING THE _____ VEHICLE. EVERYONE IN AURAL WARNING ZONE(S) (*SLD 45/SE WILL SPECIFY AREA*). ENTER AND REMAIN IN YOUR APPROVED LAUNCH TOXIC SHELTER. ALL OTHERS REMAIN IN PLACE AS A PRECAUTIONARY MEASURE. FURTHER INSTRUCTIONS WILL BE PROVIDED OVER THE CAPE AURAL WARNING SYSTEM.

C) ATTENTION EVERYONE AT CAPE CANAVERAL SPACE FORCE STATION. THERE HAS BEEN A LAUNCH ACCIDENT INVOLVING THE _____ VEHICLE. LAUNCH ESSENTIAL PERSONNEL WITHIN THE FLIGHT CAUTION AREA (FCA)/FLIGHT HAZARD AREA (FHA) PROCEED ALONG YOUR EGRESS ROUTE AS APPLICABLE. ALL OTHERS REMAIN IN PLACE AS A PRECAUTIONARY MEASURE. FURTHER INSTRUCTIONS WILL BE PROVIDED OVER THE CAPE AURAL WARNING SYSTEM.

D) ATTENTION EVERYONE AT CAPE CANAVERAL SPACE FORCE STATION. THERE HAS BEEN A LAUNCH ACCIDENT INVOLVING THE _____ VEHICLE. LAUNCH ESSENTIAL PERSONNEL WITHIN THE FCA/FHA PROCEED ALONG YOUR EGRESS ROUTE AS APPLICABLE. EVERYONE IN AURAL WARNING ZONE(S) (*SLD 45/SE WILL SPECIFY AREA*). ENTER AND REMAIN IN YOUR APPROVED LAUNCH TOXIC SHELTER. ALL OTHERS REMAIN IN PLACE AS A PRECAUTIONARY MEASURE. FURTHER INSTRUCTIONS WILL BE PROVIDED OVER THE CAPE AURAL WARNING SYSTEM.

(REPEAT ENTIRE SLD 45/SE INSTRUCTED ANNOUNCEMENT)

Note 1: Before broadcasting, Cape Support will contact the Instrumentation Superintendent of Range Operations to avoid conflicting with the Audible Plus Count system or other required operational messages.

Note 2: Depending on vehicle configuration, launch day meteorological conditions, and affected areas, SLD 45/SE will provide Cape Support with details for Message 4A, 4B, 4C, and/or 4D. 4A will apply when toxic dispersion, distant focusing overpressure and debris (inert/explosive) risk are not a concern. Message 4B will apply when toxic dispersion risk is an on-base concern. Message 4C will apply when debris (inert/explosive) risk is an on-base concern (personnel within FCA/FHA). Message 4D will apply when toxic dispersion risk and debris (inert/explosive) risk (personnel within FCA/FHA) are an on-base concern.

Attachment 6

MESSAGE 5 – TOXIC PLUME ANNOUNCEMENT

Figure A6.1. Message 5 – Toxic Plume Announcement.

At the direction of SLD 45/SE, when specific areas of Cape Canaveral Space Force Station are affected by the exhaust plume, Cape Support will broadcast this to affected Aural Warning Zones via the Cape Aural Warning System at SLD 45/SE specified time(s) (dependent upon estimated plume arrival and departure times):

ATTENTION EVERYONE IN AURAL WARNING ZONE(S): (SLD 45/SE WILL SPECIFY AREA) THE EXHAUST PLUME WILL ARRIVE IN YOUR AREA AT APPROXIMATELY (SLD 45/SE WILL SPECIFY TIME). YOU MUST BE IN AN APPROVED LAUNCH TOXIC SHELTER NOW. WE WILL NOTIFY YOU BY THE CAPE AURAL WARNING SYSTEM WHEN YOU MAY LEAVE THE SHELTER. DO NOT, REPEAT, DO NO ATTEMPT TO LEAVE THE CAPE.

(REPEAT ENTIRE SLD 45/SE INSTRUCTED ANNOUNCEMENT)

Note: Before broadcasting, Cape Support will contact the Instrumentation Superintendent of Range Operations to avoid conflicting with the Audible Plus Count system or other required operational messages.

Attachment 7

MESSAGE 6 – ALL CLEAR ANNOUNCEMENT (FOR PERSONNEL OUTSIDE IDENTIFIED AFFECTED AREAS)**Figure A7.1. Message 6 – All Clear Announcement (For Personnel outside Identified Affected Areas).**

At the direction of SLD 45/SE, Cape Support will broadcast the following announcement via the Cape Aural Warning system:

THIS IS AN ANNOUNCEMENT FOR EVERYONE AT CAPE CANAVERAL SPACE FORCE STATION (CCSFS) WHO IS LOCATED OUTSIDE (SLD 45/SE WILL SPECIFY AREA). YOU MAY NOW RESUME NORMAL ACTIVITIES. PERSONNEL WITHIN THE AFFECTED AREA SHALL REMAIN IN THEIR CURRENT LOCATION UNTIL RETRIEVED BY EMERGENCY RESPONDERS. ALL OTHERS CONTINUE TO AVOID (SLD 45/SE WILL SPECIFY AREA).

(REPEAT ENTIRE SLD 45/SE INSTRUCTED ANNOUNCEMENT)

Note 1: Before broadcasting, Cape Support will contact the Instrumentation Superintendent of Range Operations to avoid conflicting with the Audible Plus Count system or other required operational messages.

Note 2: Upon agreement between SLD 45/SE, the Emergency Operations Center Director, and 45 OMRS personnel outside of the affected area may be able to resume normal activities prior to the All Clear for the entire CCSFS.

Attachment 8**MESSAGE 7 – ALL CLEAR ANNOUNCEMENT****Figure A8.1. Message 7 – All Clear Announcement.**

At the direction of SLD 45/SE, Cape Support will broadcast this announcement across all Aural Warning Zones via the Cape Aural Warning System:

THIS IS AN ANNOUNCEMENT FOR ALL EMPLOYEES AND VISITORS AT CAPE CANAVERAL SPACE FORCE STATION. YOU MAY NOW RESUME NORMAL ACTIVITIES. REPEAT - YOU MAY NOW RESUME NORMAL ACTIVITIES.
(REPEAT ENTIRE SLD 45/SE INSTRUCTED ANNOUNCEMENT)

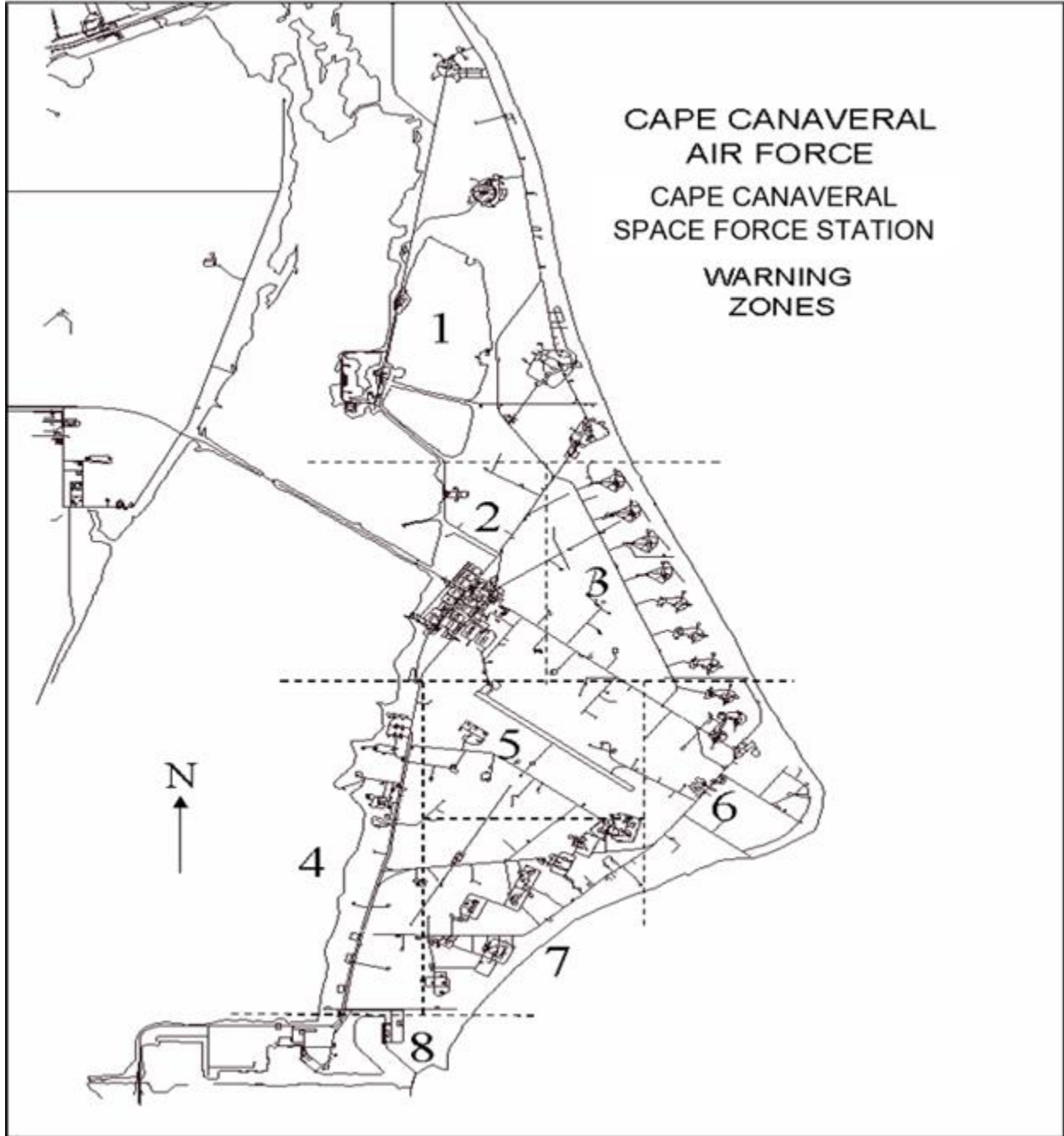
Note 1: Before broadcasting, Cape Support will contact the Instrumentation Superintendent of Range Operations to avoid conflicting with the Audible Plus Count system or other required operational messages.

Note 2: Upon agreement between SLD 45/SE, the Emergency Operations Center Director, and 45 OMRS personnel may resume normal activities.

Attachment 9

CAPE CANAVERAL SPACE FORCE STATION AURAL WARNING ZONES

Figure A9.1. Cape Canaveral Space Force Station Aural Warning Zones.



Attachment 10

SAMPLE DELAYED EVACUATION REQUEST

Figure A10.1. Sample Delayed Evacuation Request.

10 Jun 23
MEMORANDUM FOR SLD 45/CC
FROM: 5 SLS/CC
SUBJECT: L-5 Day Facility Clearance Letter for Falcon Heavy Demo
1. For the Falcon Heavy Demo mission, 5th Space Launch Squadron (5 SLS) personnel not identified as launch essential will evacuate from the Flight Caution Area/Flight Hazard Area by no later than L-75 minutes.
a. Specific mission: Falcon Heavy Demo
(1) ILC and T-0: DD MMM YY @ XXXX-XXXX (local – primary)
(2) ILC and T-0: DD MMM YY @ XXXX-XXXX (local - backup)
b. I acknowledge the FCA/FHA, as identified in the roadblock access letter for this mission, must be cleared to ensure compliance with overall aggregated risk and individual criteria.
c. 5 SLS has a process in place to ensure our personnel in the following facilities will evacuate outside of the FCA/FHA no later than 75 minutes prior to T-0: Facility 1645 – personnel = 55
d. The 5 SLS POC (X) will contact the Risk Assessment Center (RAC) IAW contact information as conveyed at the Delta Launch Readiness Review and/or Time off the Beach email in support of each mission at NLT T-60 minutes to verify that all personnel in the identified facilities have evacuated to areas outside of the FCA/FHA. X can be contacted at 321-XXX-XXXX (office) or XXX-XXX-XXXX (cell).
e. I acknowledge the failure to comply with this letter may result in a launch scrub and/or termination of the opportunity to evacuate at the agreed T-75 minute timeline for the future launch (ascent) and landing (descent) missions.
2. The delta point of contact for this matter is First Name Last Name, 5 SLS/DO, (321) 321-XXX-XXX or e-mail firstname.lastname@spaceforce.mil.
MY NAME, Colonel, USSF Commander
cc: SLD 45/SE SLD 45/SEL SLD 45/SIO/CC