

**MEMORANDUM OF UNDERSTANDING
BETWEEN
AIR FORCE SPACE COMMAND
AND
FEDERAL AVIATION ADMINISTRATION
OFFICE OF THE ASSOCIATE ADMINISTRATOR FOR
COMMERCIAL SPACE TRANSPORTATION
FOR
RESOLVING REQUESTS FOR RELIEF
FROM
COMMON LAUNCH SAFETY REQUIREMENTS**

15 August 2005



I. PURPOSE

This Memorandum of Understanding (MOU) explains the roles and responsibilities of, and outlines the coordination process between, Air Force Space Command (AFSPC) and the Federal Aviation Administration (FAA) Office of the Associate Administrator for Commercial Space Transportation in resolving a request from a launch operator for relief from an AFSPC and FAA common launch safety requirement. Further, this MOU demonstrates how the relief process will minimize burdens on a launch operator and will not require duplication of effort from a launch operator.

II. SCOPE

This MOU applies to the implementation of AFSPC and FAA common launch safety requirements governing U.S. Government and FAA-licensed launches. This MOU contains provisions for timely and efficient coordination between the two agencies as they carry out their responsibilities for overseeing safety of space launch and reentry. This MOU is consistent with statutory requirements and national policy that apply to the FAA or AFSPC.

III. AUTHORITY

This MOU is pursuant to the Memorandum of Agreement (MOA) between the Department of the Air Force and the Federal Aviation Administration on Safety for Space Transportation and Range Activities, January 16, 2001. Section VI, Paragraph C of the MOA directs the Air Force and the FAA to work together to achieve common launch safety requirements and to “develop, maintain, and implement a process for communication with respect to interpretations of the common safety requirements as they apply to government and FAA-licensed launches.” The MOA directs that this process be utilized in connection with “requests from any launch operator for a waiver, deviation, or meets intent certification,” or, in other words, for relief from any common launch safety requirement. For an FAA-licensed launch from an AFSPC range, the MOA directs that the Air Force and FAA coordinate to resolve any relief issues related to the common launch safety requirements.

IV. OBJECTIVES

This MOU:

A. Outlines the framework for AFSPC and FAA implementation of the agreements made in the January 2001 MOA regarding coordination on issues involving relief from AFSPC and FAA common launch safety requirements.

B. Minimizes the regulatory burden on the US commercial space sector by:

1. Clearly describing federal agency requirements and responsibilities with regard to interagency coordination on issues involving relief from the common launch safety requirements; and

2. Precluding unnecessary overlap and duplication.

C. Defines an interagency process for coordination on tailoring of common launch safety requirements during the development of a launch vehicle.

D. Defines an interagency process for resolving requests for relief from common launch safety requirements. This MOU:

1. Enhances current AFSPC and FAA processes for resolving relief issues;

2. Outlines procedures to share data to avoid duplication of effort and allows for joint resolution of issues while enforcing AF and FAA requirements;

3. Provides, for FAA-licensed launches from AFSPC ranges, the interagency coordination procedures for requests for relief; and

4. Outlines, for FAA-licensed launches from non-AFSPC launch sites and government launches, the procedures for exchange of data on relief issues related to AFSPC and FAA common launch safety requirements.

V. DEFINITIONS

A. Equivalent level of safety means an approximately equal level of safety as determined by qualitative or quantitative means. Equivalent level of safety determinations made by AFSPC ranges have been referred to as "meets intent certifications."

B. Common launch safety requirements means requirements that are shared by the FAA and AFSPC and that protect the public from hazards associated with space launch. These requirements will be codified in FAA regulations, Code of Federal Regulations 14 C.F.R. Ch. III, through FAA rulemaking. At AFSPC ranges, the common launch safety requirements will be implemented in AFSPC range safety documents.

C. Launch operator means a person or entity who conducts or will conduct the launch of a launch vehicle and any payload. Note: AFSPC refers to a launch operator as a range user.

D. Tailoring means the process used at AFSPC ranges beginning at program introduction where AFSPC, through its range safety organizations, and a launch operator review each range safety requirement and jointly document whether or not the requirement applies to the launch operator and if it does apply, whether or not the launch operator will meet the requirement as written or achieve an equivalent level of safety through an acceptable alternative. The FAA will participate in the AF tailoring process as part of the licensing process. The FAA's licensing process permits similar determinations.

E. Waiver means a decision that allows a launch operator to continue with a launch, including launch processing, even though the launch operator does not satisfy a specific safety requirement and is not able to demonstrate an equivalent level of safety. A waiver applies where a failure to satisfy a safety requirement involves a statistically or mathematically significant increase in expected risk as determined through quantitative or qualitative risk analysis, and the activity may or may not exceed the public risk criteria.

VI. GENERAL

A. The Air Force and FAA established a Common Standards Working Group (CSWG) for developing and ensuring the consistency of common launch safety requirements that will be contained in FAA regulations and AFSPC range safety requirement documents. The AFSPC range safety documents will include the common launch safety requirements; however, they will also address a broader range of issues. Once the AFSPC and FAA common launch safety requirements are final, the AFSPC range users, in day-to-day practice, will only need to work from AFSPC range safety documents for relief from common launch safety requirements. The FAA launch site safety assessments of each AFSPC range will cross-reference the common launch safety requirements between the FAA regulations and AFSPC requirements.

B. The complexity of launch vehicle systems and operations causes situations where strict compliance with specific requirements may be difficult or impossible. In these situations, a launch operator may seek relief from a requirement. The FAA and AFSPC may approve relief from a common launch safety requirement by finding an equivalent level of safety or granting a waiver based on criteria in AFSPC range safety documents and 14 CFR Ch. III and following the coordination process outlined in this MOU. The CSWG will periodically review the implementation of this MOU and propose any future updates to enhance AFSPC and FAA coordination on relief issues. At a minimum, this MOU will be reviewed every four years, in conjunction with review of the January 2001 MOA.

VII. FAA-LICENSED LAUNCHES FROM AFSPC RANGES

A. The Space Wing Commander or designee determines that a launch should be stopped in accordance with the AF and FAA MOA on Safety for Space Transportation and Range Activities.

B. The FAA and AFSPC will jointly stress to the launch operator that the launch operator's first course of action when seeking relief from a common launch safety requirement is to develop an alternative that provides an equivalent level of safety. AFSPC and FAA staff will work jointly with the launch operator's staff as early as possible to identify an acceptable technical approach.

C. The FAA and AFSPC will notify each other of all requests for relief. Notification of requests may be accomplished by telephone, fax, or e-mail to a designated representative.

D. Both agencies will share copies of all formal documentation used by a launch operator to request relief and any supporting documents.

E. For a request for relief for a scheduled launch, the FAA and AFSPC will first estimate whether there is sufficient time before the launch to resolve the request. The agencies will immediately inform the launch operator if AFSPC or the FAA believes that there may not be sufficient time to resolve the issue before the launch.

F. The FAA will identify any licensing activity that may be required with respect to a request for relief, such as changes to a license application that may be in process or request for a license modification for an existing license.

G. The FAA and AFSPC will jointly review each request with the requesting launch operator. This review may be accomplished via teleconferences, e-mail correspondence, or face-to-face meetings.

H. Both agencies will notify each other of all review activities. A review activity will not proceed in the absence of one agency without the consent of that agency. The agencies will have an initial government-only face-to-face meeting or telephone conference on a relief issue early in the process to determine whether there are any areas of conflict and to resolve any conflict.

I. For each review activity, both agencies will share copies of any launch operator presentation materials and the results of the review activity.

J. After the final clear to launch poll the Space Wing Commander or designee will determine, using his or her best judgment, whether the common launch safety requirements remain satisfied. The Space Wing Commander or designee may allow a launch to proceed in the event of a noncompliance with an AFSPC requirement only if he or she determines, using his or her best judgment, that the AFSPC noncompliance does not violate a common launch safety requirement.

K. The FAA and AFSPC will share copies of all documents used by either agency to resolve a request for relief from a common launch safety requirement. To jointly coordinate and resolve requests from a launch operator:

1. The launch operator without "grandfather" status will complete the "Launch Safety Requirements Relief Request" (see Attachment A), whereas the launch operator of a vehicle with "grandfather" status may complete the attachment, for the following items:

- a) Identify each affected common launch safety requirement and provide references to each applicable AFSPC and FAA safety requirement;
- b) State the rationale, including justification, for the request for relief;
- c) Identify how the launch operator proposes to mitigate the hazard proposed for acceptance; and

d) Identify any get well plan and the expected time limit it will take to eventually meet the requirement.

2. The AF and FAA will complete the remaining sections of the "Launch Safety Requirements Relief Request" that will be included as part of their approval documents. The final "Launch Safety Requirements Relief Request" will:

a) Identify the extent of interagency coordination in reviewing the request for relief and identify the AFSPC, FAA, and launch operator points of contact. Space Wing level safety and the FAA will process the waiver jointly.

b) State the government's position on the resolution of the request for relief and any related issues including all technical justification for the FAA's position.

c) State the extent and applicability of any relief that has been approved for FAA-licensed launches (such as, one time, limited, or permanent).

d) Identify any follow-on FAA licensing activities for future launches.

e) For any resolution made less than 24 hours prior to a launch attempt or launch, the FAA and AFSPC will jointly document the resolution in the form of a post-launch attempt or post launch report. The report will identify all range and launch vehicle systems involved and the day of launch conditions that led to the request for relief as well as all technical justifications for the resolution.

f) The Space Wing Safety offices will provide copies of all approved requests for relief from common launch safety requirements to AFSPC/SEC.

3. Changes to the request form format at Attachment A shall be approved by the CSWG co-chairs.

VIII. ALL GOVERNMENT LAUNCHES AND FAA-LICENSED LAUNCHES FROM NON-AFSPC LAUNCH SITES

A. Government launches of dual use launch vehicles. For government launches of launch vehicles used for both government and FAA-licensed launches, AFSPC will invite the FAA to participate in AFSPC's review of requests for relief from common launch safety requirements. The FAA recognizes that it does not have jurisdiction over government launches, which may take place from federal or non-federal launch sites. AFSPC recognizes that an FAA-licensed launch site operator may only operate within the scope of its license for any non-government launch. The two agencies will coordinate for informational purposes in accordance with the following:

1. AFSPC, the FAA, and the launch operator will:

a) Identify any issues that may have an effect on FAA-licensed launches. In accordance with the January 2001 MOA, the two agencies will share with each other their respective interpretations of the common requirements; and

b) Share, to the greatest extent possible, launch vehicle and launch support equipment safety and performance data common to licensed and non-licensed launches for the purposes of maintaining an accurate baseline concerning a dual use system's compliance with the common launch safety requirements.

2. AFSPC will provide the FAA copies of the AFSPC resolution documentation for relief from a common launch safety requirement. The FAA will provide AFSPC and the launch operator a completed copy of attachment A of this MOU for any issues identified that would have an effect on any potential FAA-licensed launch.

B. Government-only launch vehicles. For launch vehicles and launch support equipment used only for government launches from AFSPC ranges, the FAA will be invited to participate in reviewing requests for relief from common launch safety requirements at the discretion of AFSPC. For government launches from FAA licensed launch sites, the FAA may participate upon the FAA's request.

C. FAA-licensed launches from Non-AFSPC Launch Sites. The FAA will invite AFSPC to participate in the FAA's review of requests for relief from common launch safety requirements for a launch from a non-federal launch site where the proposed action might impact Department of Defense missions. The two agencies will coordinate in accordance with the following:

1. AFSPC and the FAA will share with each other their respective interpretations of the common requirements and will share launch vehicle and launch support equipment safety and performance data common to licensed and non-licensed launches for the purposes of maintaining an accurate baseline concerning launch vehicle safety and performance.

2. The FAA will provide AFSPC copies of the resolution documentation for relief from the common launch safety requirements. The documentation will contain attachment A of this MOU.

IX. TAILORING

A. AFSPC and the FAA will jointly participate in all tailoring of the common launch safety requirements for launch vehicles used for licensed launches from AFSPC ranges.

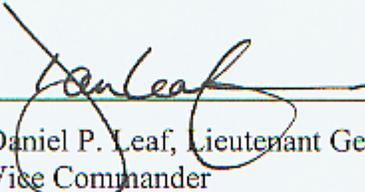
B. AFSPC and the FAA will coordinate on the review of any request for equivalent level of safety for a common launch safety requirement that is part of tailoring or otherwise according to section VII of this MOU.

C. AFSPC and the FAA will ensure that each equivalent level of safety determination granted as part of tailoring is documented according to section VII of this MOU or in equivalent

documentation specific to the tailoring process. The documentation will include technical justification for approval and will become part of AFSPC's record for the associated launch vehicle program and part of the FAA licensing record.

X. RELIEF REVIEW PANEL

A. The FAA and AFSPC will jointly establish and co-chair a Relief Review Panel as a subgroup of the CSWG. The Relief Review Panel will review dispositioned Range Safety requests for relief and approved tailored common launch safety requirements documents at least annually. The review panel will recommend changes to the common launch safety requirements to the CSWG.



Daniel P. Leaf, Lieutenant General, USAF
Vice Commander
Air Force Space Command



Patricia Grace Smith
Associate Administrator
for Commercial Space Transportation

ATTACHMENT A

LAUNCH SAFETY REQUIREMENTS RELIEF REQUEST	
PROGRAM: RANGE USER: POC NAME: DATE:	ADDRESS: CITY: STATE: ZIP: PHONE No: FAX No: E-MAIL:
TYPE : <input type="checkbox"/> EQUIVALENT LEVEL OF SAFETY <input type="checkbox"/> WAIVER (FOR FAA REGULATIONS, 14 CFR PART 404 APPLIES)	EFFECTIVITY REQUESTED: <input type="checkbox"/> LIFE OF PROGRAM <input type="checkbox"/> LIMITED TO:
CLASS: <input type="checkbox"/> PUBLIC SAFETY <input type="checkbox"/> LAUNCH AREA SAFETY <input type="checkbox"/> LAUNCH COMPLEX SAFETY	REQUIREMENT SOURCE: <input type="checkbox"/> 14 CFR Part 417 <input type="checkbox"/> AFSPC MAN 91-710 <input type="checkbox"/> Other _____ EWR 127-1 Version
REQUIREMENT SOURCE PARAGRAPH NUMBER, TEXT, & RATIONALE:	
RATIONALE FOR RELIEF REQUESTED:	
HAZARD MITIGATION:	
GET WELL PLAN:	
RANGE USER / LICENSEE SIGNATURE	
GOVERNMENT USE ONLY BELOW THIS LINE	
AF OR FAA COMMENTS:	
AF RANGE SAFETY SIGNATURE	FAA/AST SIGNATURE
DISPOSITION: <input type="checkbox"/> APPROVED <input type="checkbox"/> APPROVED W/COMMENTS <input type="checkbox"/> DISAPPROVED	DATE: TRACKING NO: