

MEMORANDUM OF UNDERSTANDING

**Between the
Federal Aviation Administration (FAA)
and the
National Aeronautics and Space Administration (NASA)
For
Resolving Requests For Relief From Common Launch Safety Requirements**

I. PURPOSE

This Memorandum of Understanding (MOU) explains the roles, responsibilities and outlines the coordination process between, the National Aeronautics and Space Administration (NASA), Goddard Space Flight Center (GSFC), Wallops Flight Facility (WFF) 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 a launch safety requirement common to both NASA WFF and FAA. This relief process will minimize the burden on a launch operator and reduce duplication of effort from a launch operator.

II. SCOPE

This MOU applies to the implementation of NASA WFF 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 execute their responsibilities for overseeing the safety of space launch.

III. AUTHORITY

This MOU is entered into pursuant to section 3 of the Authority section of the Memorandum of Agreement (MOA) titled Safety for Space Transportation and Range Activities dated June 24, 2010 between the FAA and NASA on safety for space transportation and range activities. NASA enters into this MOA in accordance with the National Aeronautics and Space Act (51 U.S.C. § 20113). This MOU is consistent with statutes and national policies that apply to the FAA or NASA WFF.

IV. OBJECTIVES

This MOU:

- A. Outlines the framework for NASA WFF and the FAA implementation of the Agreements made in the June 2010 MOA to ensure each agency meet its responsibilities associated with overseeing the safety of U. S. commercial space sector activities in a coordinated fashion. This MOU defines coordination on issues involving relief from NASA WFF and FAA common launch safety requirements for commercial launches.
- 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. Specifically this MOU:
1. Enhances current NASA WFF and FAA processes for resolving relief issues;
 2. Outlines procedures, which share data to avoid duplication of effort and allows for joint resolution of issues for common vehicles while enforcing NASA and FAA requirements;
 3. Outlines a process for sharing of information and joint coordination on relief issues related to common vehicles from federal and non-federal launch sites.
 4. Outlines the party's participation in the Common Standards Working Group (CSWG) Relief Review Panel. This panel conducts an annual review of the prior year relief requests to common launch safety requirements for commercial launches. It is the goal of this panel to institutionalize an efficient method to review common launch safety requirements and determine their relevance for future implementation.

V. DEFINITIONS

- A. Equivalent Level of Safety (ELS) means an approximately equal level of safety as determined by qualitative or quantitative means (see Section VI for implementation). An ELS constitutes a form of relief.
- B. Common Launch Safety Requirements means requirements that are shared by the FAA and NASA that protect the public from hazards associated with space launch. These requirements are codified in FAA regulations, Code of Federal Regulations 14 C.F.R. Ch. III. At NASA WFF, the intent of the Common Launch Safety Requirements is incorporated in NPR 8715.5A NASA Range Flight Safety Program and the RSM 2002 Wallops Range Safety Manual.
- C. Launch operator means a person or entity who conducts or will conduct the launch of a launch vehicle and any payload. Note: NASA WFF refers to a launch operator as a Range User. These terms may be used interchangeably.

- D. Tailoring means the process used at the NASA WFF range beginning at program introduction where NASA WFF, 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 ELS through an acceptable alternative. The FAA will participate in the NASA 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 ELS.
- F. Common vehicles are those used for **both** government and FAA-licensed launch purposes.

VI. GENERAL

- A. The Air Force (AF), NASA and FAA CSWG develop and ensure the consistency of the common launch safety requirements. The NASA WFF Range Safety documents incorporate the common launch safety requirements where appropriate and additional requirements that apply to a broader scope of safety concerns. The NASA WFF Range Safety Manual references and incorporates specific Range Commander Council (RCC) Standards.
- B. The FAA and NASA WFF may approve relief from a common launch safety requirement by finding an ELS or granting a waiver following the coordination process outlined in this MOU. NASA Wallops and FAA will review the implementation of this MOU and propose any future updates to enhance NASA WFF and FAA coordination on relief issues.
- C. When a launch operator (range user) requests not to satisfy an FAA or NASA requirement they must request an ELS or a waiver from the respective agencies with the submittal of the Launch Safety Requirements Relief Request Form (attached). For common requirements, NASA and the FAA will conduct a joint review and consideration. Subsequent paragraphs in this section outline the joint implementation of responses to requests for relief.
- D. An ELS may apply when the alternate approach satisfies both of the following conditions:
 - 1. There is a high degree of certainty that the alternate approach will not increase the probability that safety system critical component will fail, considering all required design environments, AND
 - 2. The alternate approach will not add any single failure point(s) in safety system critical component onboard the vehicle.

- E. Each relief request only applies to the configuration or activity for which it is granted. The FAA and NASA must state how long the approval of relief lasts. The FAA's approvals are by grant of a waiver or a finding of an ELS in the course of the licensing process. For NASA, approval of a waiver is contingent on a program statement of the program plan for eventual compliance or ELS plan. NASA addresses duration and applicability through updates to the tailored requirements.

VII. NASA/FAA LAUNCH SAFETY COORDINATION

- A. For the purposes of this MOU this interagency coordination is applicable to all launches of common vehicles from federal and non-federal launch sites. This includes components or systems relevant to these common vehicles. Common vehicles are those used for both government and FAA-licensed launch purposes.
- B. The FAA recognizes that it does not have jurisdiction over non-licensed government launches (i.e. launches that are conducted by and for a government agency, that is, where the government agency is so substantially involved that it effectively directs or controls the launch). Such launches may take place from federal or non-federal launch sites. NASA recognizes that an FAA-licensed launch operator may only operate within the scope of its license for all launches from NASA WFF.
- C. As noted in the NASA and FAA MOA on Safety for Space Transportation, NASA does not have the authority to grant relief from any of the FAA's requirements, and the FAA does not have the authority to grant relief from any NASA WFF requirements.
- D. Both agencies will notify each other of all requests for relief and the schedule of associated review activities. Both agencies will share copies of all formal and supporting documentation while protecting a launch operator's proprietary information, including from other launch operators. Where needed, the agencies will have government-only face-to-face meetings or telephone conferences to review the information and jointly develop a position on the relevant technical issues.
- E. The FAA and NASA WFF will jointly recommend to the launch operator that the launch operator's first course of action when seeking relief from any safety requirement is to develop an alternative that provides an equivalent level of safety. NASA WFF and FAA staff will work jointly with the launch operator's staff as early as possible to identify an acceptable technical approach.
- F. The FAA and NASA WFF have developed a form to document non-compliances. The "Launch Safety Requirements Relief Request Form" (see attached). When requesting relief for an FAA licensed launch from WFF, the launch operator will submit the completed form to the NASA WFF Safety Office and the FAA along with any other supporting material.

- G. For government launches of common vehicles and launches involving components or systems of common vehicles at WFF, WFF will inform the FAA of any requests for relief. For licensed launches at WFF the FAA will sign as approve/disapprove in accordance with 14 CFR requirements. The FAA signature will occur as part of the regular staffing process and shall be complete prior to final NASA WFF approval.
- H. The FAA will identify any licensing activities 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.
- I. Requests for relief received during a launch countdown for FAA licensed launches at WFF will be jointly dispositioned by the WFF Director, Wallops Range Safety Officer (RSO) or designee and the FAA safety inspector or designee with coordination from the launch operator. For government launches of common vehicles and launches involving components or systems of common vehicles at WFF, NASA WFF Safety Office will ensure the FAA is informed of any approved relief requests after the associated launch.
- J. The FAA will upload all approved relief requests to the FAA/AF/NASA Relief Database, which provides a centralized repository for relief requests to all safety requirements. The FAA maintains this database using information provided by the launch operator or its designee.
- K. If a request for relief is approved, and for those which derive from an identically shared requirement, the FAA and NASA will jointly review the requirement post approval and determine its validity. Where the underlying requirement is not identically shared, each organization may review its requirements for future modification at its sole discretion.

VIII. TAILORING

- A. NASA WFF and the FAA will jointly participate in all tailoring of the Common Launch Safety Requirements for common launch vehicles used for licensed launches from WFF.
- B. The rationale for ELS determinations will be captured and approved as part of the initial tailoring process and does not require completion of Launch Requirements Relief Request Form. The documentation will include technical justification for approval and will become part of NASA WFF's record for the associated launch vehicle program and part of the FAA licensing record. Once tailoring is complete or a license is issued, new requests for relief may be submitted jointly to the FAA and NASA WFF using the Launch Safety Requirements Relief Request form.
- C. NASA WFF will ensure the FAA is notified of any changes or updates to the tailored documents

- D. NASA WFF and the FAA will coordinate on the review of any ELS request for a common launch safety requirement that is part of tailoring or otherwise according to section VII of this MOU.

IX. POINTS OF CONTACT

NASA Wallops Flight Facility
Range Safety Office
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U.S. Department of Transportation
Federal Aviation Administration
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Wallops Island, VA
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X. FINANCIAL OBLIGATIONS

There will be no transfer of funds or other obligations between NASA WFF and FAA in connections with this Agreement. Each Party will fund its own participation under this Agreement. All activities under or pursuant to this Agreement are subject to the availability of appropriated funds and the Parties' respective funding procedures.

XI. REVIEW AND ADMINISTRATION

This Agreement will remain, in effect, for a period not to exceed 5 years, or until either party requests revocation in writing, with 30 days' notice. Either party may request modification at any time as deemed necessary, subject to the agreement of the signatories. Amendment shall be in writing, jointly signed, dated, and attached to the basic MOA. This Agreement is effective when the last signature is affixed.

XII. DISPUTE RESOLUTION

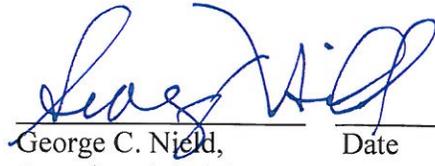
All disputes concerning questions of fact or law arising under this MOA shall be referred by the claimant in writing to the appropriate person identified in this MOA as the "Points of Contact." The persons identified as the "Points of Contact" for NASA and the FAA will consult and attempt to resolve all issues arising from the implementation of this MOA. If they are unable to come to agreement on any issue, the dispute will be referred to the signatories to this MOA, or their designees, for joint resolution after the Parties have separately documented in writing clear reasons for the dispute. As applicable, disputes will be resolved pursuant to the provision of the "Intragovernmental Business Rules" delineated in the Treasury's Financial Manual, Vol. 1., Bulletin 2011-04, Section VII (Resolving Intragovernmental Disputes and Major Differences (November 8, 2010).



William A. Wrobel
WFF Site Director
National Aeronautics and Space Administration

15 NOV 2013

Date



George C. Nield,
Associate Administrator
Commercial Space Transportation

11/14/13

Date

LAUNCH SAFETY REQUIREMENTS RELIEF REQUEST		
PROGRAM: RANGE USER: POC NAME: Date:		ADDRESS: CITY: PHONE NO: FAX NO:
TYPE: <input type="checkbox"/> EQUIVALENT LEVEL OF SAFETY <input type="checkbox"/> WAIVER		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 <input type="checkbox"/> PROCESS FACILITY SAFETY		NONCOMPLIANCE REQUIREMENT SOURCE: <input type="checkbox"/> 14 CFR Part 417 <input type="checkbox"/> AFSPCMAN 91-710 or RSM-2002B <input type="checkbox"/> Other _____ 319-07/324-01
REQUIREMENT SOURCE PARAGRAPH NUMBER, TEXT, & RATIONALE:		
RATIONALE FOR RELIEF REQUEST:		
HAZARD MITIGATION:		
GET WELL PLAN:		
RANGE USER / LICENSEE SIGNATURE		
GOVERNMENT USE ONLY BELOW THIS LINE		
AF, WFF, OR FAA COMMENTS:		
AF RANGE SAFETY SIGNATURE	NASAWFF RANGE SAFETY SIGNATURE	FAA/AST SIGNATURE
DISPOSITION: <input type="checkbox"/> APPROVED <input type="checkbox"/> APPROVED W/COMMENTS <input type="checkbox"/> DISAPPROVED		DATE: TRACKING NO: