Master file CAM-48

is revised Part 48 of CARs
being recodification. Use in conjunction
Part 101 in near future. with CAM 48 until then.

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UNITED STATES OF AMERICA
FEDERAL AVIATION AGENCY
WASHINGTON, D.C.

Civil Air Regulations Amendment 48-1
Civil Air Regulations Amendment 60-31

Effective : March 14, 1963
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(As published in 28 F.R. 305)

[Reg. Docket No. 1234; Amdts. 48-1, 60-31]

## PART 48—OPERATION RULES FOR MOORED BALLOONS, KITES AND UNMANNED ROCKETS

## PART 60—AIR TRAFFIC RULES

### Unmanned Rockets

On June 7, 1962, notice was given in Draft Release 62-26 (27 F.R. 5402) that the Federal Aviation Agency had under consideration a proposal to amend Part 48 of the Civil Air Regulations to include regulations governing the operation of rockets. The notice also proposed to amend the scope of Part 60 to exclude rockets from the air traffic rules contained therein.

Regulatory action, as proposed, is requried to provide the necessary compatibility between rocket operations and other airspace operations. It is also necessary to provide for the protection of persons and property on the ground that are not associated with such rocket activities.

The comments received in response to the draft release generally concurred with the concept and operating limitations. However, some of the comments contained suggestions to modify the proposal in a way which would result in stricter requirements for certain operations. On the other hand, others contended that the Agency was not lenient enough.

Apprehension was expressed in one comment because no limitation as to type was placed on the four ounces of propellant used in model rockets. It was contended that four ounces of nitroglycerine could be considered a likely propellant. Although the use of such a high explosive is highly improbable, the rule being adopted will limit the type of propellant to no more than four ounces of a "slow-burning" propellant.

The Air Line Pilots Association (ALPA) supported the operating limitation that would require the regulated rockets to be operated more than five miles from an airport boundary. However, in the opinion of ALPA, the Agency had created a variance by not imposing this same limitation on the exempted model rockets. The concern of ALPA is appreciated, however, these model rockets are not considered to be a hazard due to their limited size, weight, construction and operational capability. Therefore, no change is made in this portion of the final rule.

Two comments contended that the exemption granted to operations under a written agreement was unnecessary. They stated that § 48.2 of the existing regulation, concerning waivers to the part, adequately provides for written agreements. We have recognized this contention and deleted the redundant provision which exempts operations conducted under such a written agreement. In doing so, however, we wish to point out certain facts and make certain assurances. Both of the previous draft releases on rockets, Nos. 61-4 and 62-26, excluded rocket operations conducted under a written agreement reached between the operator and the Federal Aviation Agency. This exclusion was intended to encompass the more complicated and large-scale sophisticated programs, such as those of the Department of Defense and the National Aeronautics and Space Administration. In addition, Draft Release No. 62-26 excluded rocket operations in restricted areas—except for the requirement to stay at least 1,500 feet from persons not associated with the operation. As a matter of fact, all of these large-scale programs in the United States are conducted entirely within restricted areas under written agreements. Therefore, even though the proposed rules were directed to all rocket operations, their effect was to principally control amateur rocketry. Deletion of the written agreement provision will not alter this situation. Those agencies operating in restricted areas will still be exempt from the rules proposed herein, with the one exception previously noted regarding distance from persons, and their current Letters of Agreement will remain in effect as waivers to the part and as conditions attached to the waiver. Any later operations, whether amateur or governmental, requiring deviation from the regulations will be processed as a Certificate of Waiver.

One of the major points that was discussed in the preamble of the draft release was an explanation of the term "controlled airspace." This was considered necessary in order to apprise all rocket operators of the various segments and areas of controlled airspace from which the operational limitations required avoidance. In supporting this avoidance limitation, the Air Transport Association recommended that the rule clearly state that the Continental Control Area (airspace at and above 14,500 feet mean sea level over the 48 contiguous States and the District of Columbia) is controlled airspace and therefore must be avoided. The merit of this recommendation is recognized. We intend to go further, however, and incorporate a complete explanation of the various types of controlled airspace in the newly adopted Agency Advisory Circular System. This system has been developed to provide the public with nonregulatory guidance and information material that is supplemental to the regulation. Complete knowledge of the types of controlled airspace should provide for a greater understanding and ease of application of the regulation.

Certain exceptions were taken to the provision requiring avoidance of controlled airspace. Several of the comments indicated that the limitation would be unnecessarily restrictive and would create a considerable requirement for the issuance of waivers. This possibility is recognized, especially for operations east of the Mississippi River where uncontrolled airspace is at a premium. However, we intend to closely monitor this program and if it appears that an unrealistic burden is being placed on such operations, modifications will be considered.

The majority of comments concurred with the principal objective of the proposal, that is, to direct rocket operations into areas of minimum aircraft opera-

tions. The limitation that would require rockets to be operated more than five miles from an airport boundary did, however, generate a degree of interest. One of the two comments that took exception to this limitation suggested that an airport closed to all but rocket operations conceivably could be the best possible location. The other comment contended the limitation appeared unwise since rocket activity under controlled conditions at a small airport probably would be more desirable because the activity would be under direct observation of local pilots. The merit of these arguments is appreciated; however, we believe the safety of unknowing transient pilots could be jeopardized. Since modification in the manner suggested, even at less active airports, would nullify one of the major safety objectives by allowing potentially hazardous objects in areas of more concentrated air traffic, no change is made in this operating limitation.

The weather requirements of the proposal were generally supported. However, the Department of the Army commented that the weather limits imposed would preclude rocket operations in other than perfect weather conditions. Experience has indicated that the majority of amateur rocketeers desire to operate a rocket only under ideal weather conditions in order to visually judge and observe its performance and impact, thereby facilitating recovery of the rocket for re-use or subsequent operation. Therefore, these limitations are not considered to impose an unreasonable burden. One comment recommended radar surveillance to allow operating in reduced weather conditions. This is a provision that would be considered in any request for a Certificate of Waiver. Other than a minor modification of wording regarding visibility at the altitude at which the rocket is operated, no change is made in the weather requirements.

In consideration of the foregoing, Civil Air Regulations Parts 48 and 60 are amended as follows:

1. By changing the title of Part 48 to read: Part 48—Operation Rules for Moored Balloons, Kites and Unmanned Rockets.

2. By amending § 48.1 to read:

**§ 48.1 Applicability.**

This part applies to the operation of moored balloons, kites and unmanned rockets in the United States.

NOTE. • • •

3. By amending § 48.3 to add in proper alphabetical order the following new definitions:

**§ 48.3 Definitions.**

"Airport" means an area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its building and facilities, if any.

• • • • •

"Rocket" means an aircraft propelled by ejected expanded gases generated in the engine from self-contained propellants and is not dependent on the intake of outside substance. It includes any part which becomes separated during the operation.

4. By adding a new Subpart C to read:

## Subpart C—Unmanned Rockets

Sec.
48.20 Applicability.
48.21 Exempt operations.
48.22 Operating limitations.
48.23 Notice requirements.

AUTHORITY: §§ 48.20 to 48.23 issued under sec. 307, 72 Stat. 749, 49 U.S.C. 1348.

**§ 48.20 Applicability.**

This subpart applies to the operation of unmanned rockets in the United States, except those exempted in § 48.21. Operations conducted within restricted areas must comply only with § 48.22(g) and with such additional limitations as may be imposed by the using agency or controlling agency.

**§ 48.21 Exempt operations.**

This subpart does not apply to the following:

(a) Aerial firework displays.

(b) Model rocket operations, if—

(1) No more than four ounces of propellant is used and it is of a slow-burning type;

(2) The model rocket is made of paper, wood or breakable plastic, contains no substantial metal parts, and weighs no more than 16 ounces, including the propellant; and

(3) The model rocket is operated in a manner that does not create a hazard to other aircraft, persons, or property.

**§ 48.22 Operating limitations.**

An unmanned rocket may not be operated:

(a) In a manner that creates a collision hazard with other aircraft;

(b) In controlled airspace;

(c) Within five miles of the boundary of any airport;

(d) At any altitude where clouds or obscuring phenomena of more than five tenths coverage prevail;

(e) Into any cloud;

(f) At any altitude where the horizontal visibility is less than five miles;

(g) Within 1,500 feet of any person or property not associated with the operation; or

(h) At night.

**§ 48.23 Notice requirements.**

An unmanned rocket may not be operated unless 24 hours to 48 hours prior notice is given to the nearest FAA air traffic facility (Air Route Traffic Control Center, Airport Traffic Control Tower, Flight Service Station). This notice shall include:

(a) The name and address of the operator;

(b) The number of rockets to be operated;

(c) The size and weight of each rocket;

(d) The maximum altitude to which each rocket will be operated;

(e) The geographical location of the operation;

(f) The date, time and duration of the operation; and

(g) Any other pertinent information requested by the air traffic facility.

5. By amending § 60.1 of Part 60 to include a new paragraph (c), to read:

**§ 60.1 Scope.**

• • • • •

(c) Unmanned rockets.

(Sec. 307, 72 Stat. 749, 49 U.S.C. 1348)

This regulation is effective on March 14, 1963.

Issued in Washington, D.C., on January 7, 1963.

N. E. HALABY,
*Administrator.*

## NOTICE TO HOLDERS OF PART 48 ONLY

Amendment 48-1 is furnished for holders of Part 48 only, in lieu of page revisions which would require printing and distribution of a new Part 48. This action is prompted by the FAA recodification program, under which Part 48 will soon be reissued for distribution in its recodified form ( proposed Part 101 /New/ ).