

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Parts 91, 119, 121, 125, and 135**

[Docket No. 29318; Notice No. 98-12]

RIN 2120-AG35

Prohibition on the Transportation of Devices Designed as Chemical Oxygen Generators as Cargo in Aircraft**AGENCY:** Federal Aviation Administration (FAA), DOT.**ACTION:** Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA is proposing to ban, in certain domestic operations, the transportation of devices designed to chemically generate oxygen, including devices that have been discharged and newly manufactured devices that have not yet been charged for the generation of oxygen, with limited exceptions. These devices could, if inadvertently transported when charged, initiate or provide a secondary source of oxygen to fuel a fire. This proposed ban is intended to enhance aviation safety by reducing the risk of human error in recognizing whether such a device is charged or has been discharged.

DATES: Comments must be received on or before October 26, 1998.

ADDRESSES: Comments on this notice may be delivered or mailed, in duplicate, to: U.S. Department of Transportation Dockets, Docket No. FAA-98-29318; 400 Seventh St., SW., Rm. Plaza 401, Washington, DC 20590. Comments may also be sent electronically to the following internet address: 9-NPRM-CMTS@faa.dot.gov. Comments may be filed and/or examined in Room Plaza 401 between 10 a.m. and 5 p.m. weekdays, except federal holidays.

FOR FURTHER INFORMATION CONTACT: David L. Catey, Flight Standards Service, Air Transportation Division, AFS-200, Federal Aviation Administration, 800 Independence Ave., Washington, DC 20591. Telephone: (202) 267-8166.

SUPPLEMENTARY INFORMATION:**Comments Invited**

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments, as they may desire. Comments relating to the environmental, energy, federalism, or economic impact that might result from adopting the proposals in this notice are also invited. Substantive comments should be accompanied by

cost estimates. Comments must identify the regulatory docket or notice number and be submitted in duplicate to the Rules Docket address specified above.

All comments received, as well as a report summarizing each substantive public contact with FAA personnel on this rulemaking, will be filed in the docket. The docket is available for public inspection before and after the comment closing date.

All comments received on or before the closing date will be considered by the Administrator before taking action on this proposed rulemaking. Late-filed comments will be considered to the extent practicable. The proposals contained in this notice may be changed in light of the comments received.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must include a pre-addressed, stamped postcard with those comments on which the following statement is made: "Comments to Docket No. 29318." The postcard will be date stamped and mailed to the commenter.

Availability of NPRM

An electronic copy of this document may be downloaded using a modem and suitable communications software from the FAA regulations section of the Fedworld electronic bulletin board service (telephone: 703-321-3339), the Government Printing Office's electronic bulletin board service (telephone: 202-512-1661), or the FAA's Aviation Rulemaking Advisory Committee Bulletin Board service (telephone: 1-800-FAA-ARAC).

Internet users may reach the FAA's webpage at <http://www.faa.gov/avr/arm/nprm/nprm.htm> or the Government Printing Office's webpage at <http://www.access.gpo.gov/nara> for access to recently published rulemaking documents.

Any person may obtain a copy of this NPRM by submitting a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267-9680. Communications must identify the notice number or docket number of this NPRM.

Persons interested in being placed on the mailing list for future NPRM's should request from the above office a copy of Advisory Circular No. 11-2A, Notice of Proposed Rulemaking Distribution System, that describes the application procedure.

I. Background**A. Accident Involving Chemical Oxygen Generators**

On May 11, 1996, ValuJet flight 592 crashed into an Everglades swamp shortly after takeoff from Miami International Airport, Florida. Both pilots, the three flight attendants, and all 105 passengers were killed. Before the accident, the flight crew reported to air traffic control that it was experiencing smoke in the cabin and cockpit. The evidence indicates that five fiberboard boxes containing as many as 144 chemical oxygen generators, most with unexpended oxidizer cores, and three aircraft wheel/tire assemblies had been loaded in the forward cargo compartment shortly before departure. These items were being shipped as company material. Additionally, some passenger baggage and U.S. mail were loaded into the forward cargo compartment, which had no fire/smoke detection system to alert the cockpit crew of a fire within the compartment. On August 19, 1997, the NTSB issued its aircraft accident report entitled "In-Flight Fire and Impact With Terrain; ValuJet Airlines Flight 592." In that report, the NTSB determined that one of the probable causes of the accident resulted from a fire in the airplane's Class D cargo compartment that was initiated by the actuation of one or more of the chemical oxygen generators being improperly carried as cargo.

B. Incidents Involving Chemical Oxygen Generators

In addition to the ValuJet accident discussed above, the FAA and the NTSB have investigated as many as 20 other incidents involving chemical oxygen generators, all caused by either undeclared, improperly packaged, or mishandled units. Fortunately, none of these incidents resulted in loss of life; however, they show the various ways in which chemical oxygen generators can pose dangers. The NTSB's August 19, 1997, accident report on the crash of ValuJet flight 592 also cited the following incidents:

(1) On August 10, 1986, an American Trans Air McDonnell Douglas DC-10-40 arrived without incident at Chicago's O'Hare International Airport; however, after the passengers and crew had deplaned, a fire spread rapidly throughout the entire cabin and destroyed the airplane. The National Transportation Safety Board (NTSB) concluded that the fire started as a result of a mechanic's improper handling of a chemical oxygen generator inside a seatback that was being shipped as company material. (The NTSB

learned as a consequence of this incident that some air carriers were not taking the required precautions when shipping chemical oxygen generators and were not aware that solid-state passenger supplemental chemical oxygen generators were capable of generating high temperatures and were classified as hazardous materials when carried as company material in cargo compartments.)

(2) On February 19, 1988, Eastern Airlines flight 215 carrying 131 passengers and 6 crewmembers experienced an in-flight fire but reached its destination safely. A chemical oxygen generator, taken out by a flight attendant while assisting a passenger who was complaining of shortness of breath, malfunctioned and was laid aside on the shelf of a beverage cart; it was then covered with a damp linen napkin for cooling. The cart, with the hot oxygen generator, was later put into the forward galley and several minutes later the linen napkin and other material in the galley caught fire. Flight attendants extinguished the fire with halon fire extinguishers.

(3) On November 7, 1992, an air cargo package fire broke out at a Wilson UTC, Inc., freight-forwarder facility in North Hollywood, CA, where cargo was being loaded into a container that was to have been subsequently loaded onto a Qantas Airways flight. The container was moved to a concrete area where the fire was extinguished. The fire was caused by a chemical oxygen generator being shipped without proper papers, not marked or labeled in accordance with hazardous materials regulations, and not properly assembled.

(4) On September 24, 1993, a burning cargo container was unloaded from an aircraft at a Federal Express facility in Oakland, CA. As with the Wilson UTC incident described above, a chemical oxygen generator had been shipped without proper papers, not marked and labeled in accordance with hazardous materials regulations, and not properly assembled.

(5) On October 21, 1994, a box containing 37 chemical oxygen generators caught fire at an Emery Worldwide building in Los Angeles, CA. Once again, the box of chemical oxygen generators was found to have been shipped without proper papers, not properly marked and labeled, and not properly assembled and packaged.

(6) On January 26, 1996, an undeclared shipment of 11 chemical oxygen generators was discovered during the loading of an America West aircraft in Las Vegas, NV. A maintenance technician noticed partially obscured hazardous materials

labels and opened the package to discover the chemical oxygen generators, packed at random, most with their actuating devices in the firing position, one with no retaining pin inserted.

(7) On April 12, 1997, one of Continental Airlines' contract maintenance companies shipped seven chemical oxygen generators on Continental flight 190. The chemical oxygen generators were loosely packed in a box containing a life vest and their percussion firing mechanisms were in the "disarmed" position. The shipping papers listed the contents of the box simply as "aircraft parts."

C. National Transportation Safety Board (NTSB) Recommendation

On May 31, 1996, the NTSB issued Recommendation A-96-29, which stated that the Research and Special Projects Administration (RSPA) should, "in cooperation with the Federal Aviation Administration, permanently prohibit the transportation of chemical oxygen generators as cargo on board any passenger or cargo aircraft when the generators have passed their expiration dates, and the chemical core has not been depleted." (Class I, Urgent Action)

D. Research and Special Programs Administration (RSPA) Actions

On May 24, 1996, RSPA published an interim final rule in the **Federal Register** (61 FR 26418), which temporarily prohibited the offering for transportation and the transportation of chemical oxygen generators as cargo in passenger-carrying operations. The RSPA interim final rule was adopted as a final rule on December 30, 1996 (61 FR 68952), resulting in the permanent ban on carrying chemical oxygen generators as cargo on all passenger-carrying operations. On the same date, RSPA proposed to limit the carriage of oxidizers, including compressed oxygen, to accessible locations on all-cargo operations, and prohibit such oxidizers from being transported in all passenger-carrying aircraft (61 FR 68955, Dec. 30, 1996).

On June 5, 1997, RSPA adopted a more specific shipping description for chemical oxygen generators to make it easier for carriers to identify these devices, and also specified additional packaging requirements (see 49 CFR 171.101 (62 FR 30770-30771, June 5, 1997)). If a chemical oxygen generator is shipped with its means of initiation attached, the generator must incorporate at least two positive means of preventing unintentional initiation, and be classed and approved by RSPA. A person who offers a chemical oxygen

generator must: (1) Ensure that the generator is offered in conformance with the conditions of the approval; (2) maintain a copy of the approval at each facility where the chemical oxygen generator is packaged; and (3) mark the approval number on the outside of the package (see 49 CFR 171.102, special provision 60 (62 FR 30772, June 5, 1997, and 62 FR 34669, June 27, 1997)). When transported by air (on all-cargo aircraft), a chemical oxygen generator must conform to the provisions of the approval issued by RSPA and be contained in a packaging prepared and originally offered for transportation by the approval holder (see 49 CFR 171.102, special provision A51 (62 FR 30772, June 5, 1997)).

On August 20, 1997, RSPA published a Supplemental Notice of Proposed Rulemaking (SNPRM) (62 FR 44374) to determine whether the proposed oxidizer prohibition should extend to Classes B and C compartments on passenger-carrying aircraft. RSPA also proposed in the SNPRM to completely prohibit the carriage of chemical oxygen generators that have been discharged ("spent") and to prohibit the carriage of personal-use chemical oxygen generators on passenger-carrying aircraft (see also 61 FR 68955, Dec. 30, 1996).

E. Design of Cargo Compartments Aboard Aircraft

Various features incorporated into the designs of cargo compartments are intended to control or extinguish fires that might occur. Under the Federal Aviation Regulations, cargo compartments in transport category aircraft are classified into five categories, Classes A, B, C, D, and E (14 CFR 25.857). Although the FAA has not classified cargo compartments in non-transport category aircraft, the FAA believes that the same risks also apply to compartments in non-transport category aircraft that share similar design features. It should be noted that none of the compartments are designed to control fires fueled by chemical oxygen generators. In brief, the five classes of compartments are as follows:

Class A Compartments

A Class A compartment is one which is easily accessible in flight and in which the presence of a fire would be easily discovered by a crewmember.

Class B Compartments

A Class B compartment is one which is completely accessible in flight to a crewmember with a hand held fire extinguisher; from which no hazardous quantities of smoke, flames, or extinguishing agent will enter any

compartment occupied by the crew or passengers when the compartment is being accessed; and in which an approved smoke detector or fire detector system is installed.

Class C Compartments

A Class C compartment is not accessible but has an approved smoke detector or fire detector system, an approved built-in fire-extinguishing system, a means to control ventilation and drafts so that the extinguishing agent can control a fire that starts within the compartment, and a means to exclude hazardous quantities of smoke, flames or extinguishing agent from any compartment occupied by crew or passengers.

Class D Compartments

A Class D compartment is designed to control ventilation and drafts. The compartment volume does not exceed 1,000 cubic feet, and there are means to exclude hazardous quantities of smoke, flames or noxious gases from any compartment occupied by crew or passengers. Its design is intended to confine and control the severity of a fire by limiting air flow. For a compartment of 500 cubic feet (cu. ft.) or less, an air flow of 1500 cu. ft. per hour (three air exchanges per hour) is acceptable. On February 17, 1998, the FAA issued a final rule (63 FR 8032) that requires that compartments designated as Class D on passenger-carrying aircraft used in part 121 operations meet fire detection and suppression standards for Class C compartments, as applicable, by the year 2000. In addition, the final rule requires that, for all-cargo part 121 operations, Class D compartments meet at least the detection standards of Class E compartments.

Class E Compartments

A Class E compartment is found on all-cargo aircraft, has an approved smoke or fire detector system, a means to shut off the ventilating airflow, a means to exclude hazardous quantities of smoke, flames or noxious gases from the flight crew compartment, and required crew emergency exits are accessible under any cargo loading condition.

II. Today's Proposed Action

The actions proposed in this notice, in conjunction with RSPA's actions regarding chemical oxygen generators, are responsive to the NTSB's recommendations and are based on FAA's assessment of possible human errors in identifying a device designed as a chemical oxygen generator that is charged versus one that has never been

charged or has been previously discharged. The FAA proposes to define a "device designed as a chemical oxygen generator" as a device that: (1) Is charged with or contains a chemical or chemicals that produce oxygen by chemical reaction, regardless of whether the expiration date for the device has passed; (2) has been discharged, and thus has already produced oxygen by chemical reaction, regardless of whether there is residue remaining in the device; and (3) is newly manufactured but not charged with chemicals for the generation of oxygen. The FAA also proposes to include, in 14 CFR 119.3, the same definition of chemical oxygen generator that is currently found in 14 CFR 25.1450, i.e., "a device which produces oxygen by chemical reaction." The FAA's definition differs slightly from RSPA's, as finalized in its May 24, 1996 interim final rule (61 FR 26418), which defines an oxygen generator (chemical) as "a device containing chemicals that upon activation release oxygen as a product of chemical reaction." Although worded slightly differently, the FAA does not view these definitions as being in direct conflict. Nevertheless, the FAA requests comments as to whether the inclusion of the part 25 definition of chemical oxygen generator in § 119.3 causes confusion for air carriers and hazardous materials shippers/offers.

The FAA is very concerned about the possibility of the packaging of a device designed as a chemical oxygen generator being mismarked because of the hazards posed by such devices. In certain circumstances, devices designed as chemical oxygen generators can initiate fires on aircraft. Even in cases where they are shipped in accordance with the Hazardous Materials Regulations (HMR's) (49 CFR parts 171-180) and do not actually start a fire, their presence may contribute to the severity of a fire by providing a secondary source of oxygen not otherwise present. Therefore, the FAA believes that the transportation of these items poses an unacceptable risk in both domestic (1) passenger-carrying operations conducted under 14 CFR parts 91, 121, 125, and 135, and (2) all-cargo operations conducted under 14 CFR parts 91, 121, 125, and 135 when those items are transported in cargo compartments that are not equipped with fire/smoke detection systems. The prohibition would not, however, extend to those devices designed as chemical oxygen generators that are installed in an aircraft to conform with aircraft type-certification requirements or are present to conform with, or permitted to be

carried under, FAA operating rules for a particular flight.

The FAA notes that the proposed prohibition on the carriage of devices designed as chemical oxygen generators would overlap, in some instances, with RSPA's final and proposed hazardous materials regulations. The FAA would not charge a person with the same violation of both FAA's and RSPA's rules to enhance the sanction sought. Accordingly, the FAA would not seek more than a single civil penalty for any one violation; however, there are situations in which two sanctions for a violation might be appropriate. For example, a violation might warrant remedial certificate suspension or revocation because a certificate holder's qualifications to hold a certificate might be at issue. At the same time, a civil penalty for that violation might also be warranted.

A. Passenger-Carrying Operations

The FAA proposes to ban the transportation of any device designed as a chemical oxygen generator aboard domestic passenger-carrying aircraft conducting operations under parts 91, 121, 125, and 135 of the Federal Aviation Regulations. The ban would also apply to any person who carries or acts in any manner that could result in the carriage (shipment) of devices that are the subject of the proposed ban; therefore, any person who attempts to offer such devices for carriage on board a domestic aircraft, even if not successful, would be in violation of the prohibition.

Devices designed as chemical oxygen generators can produce a secondary source of oxygen not otherwise present aboard an aircraft. A fire in an oxygen-enriched environment increases the risk that control of the aircraft will be lost. This may be caused by damage to the aircraft's flight control cables, hydraulic systems, or electrical systems. In addition, compared to a fire that is not in an oxygen-enriched environment, a fire that is fed by a secondary source of oxygen increases the risk that the flames and resultant toxic fumes and smoke will cause injuries or death. The heat generated from charged and activated chemical oxygen generators, including what is sometimes referred to as "hotel oxygen" or "executive emergency oxygen kits," could cause a fire to start in clothing, paper, and other items that might be carried near these devices. Even if these devices do not initiate a fire, they could become involved in a fire started elsewhere and feed the fire with oxygen.

The FAA believes that for passenger-carrying operations, the most prudent

thing to do is to ban, in the cabin and in all cargo compartments, the carriage of devices designed as chemical oxygen generators. These devices would be banned in both the cargo areas and cabins of passenger-carrying aircraft operated under parts 91, 121, 125, and 135 of the Federal Aviation Regulations, unless those devices were installed in that aircraft for the aircraft to be in conformity with aircraft type-certification or are otherwise permitted to be carried under FAA operating rules for that particular flight.

This proposed rule supplements RSPA's December 30, 1997 final rule (61 FR 68952) prohibiting chemical oxygen generators from being shipped as cargo aboard aircraft engaged in passenger operations. Specifically, the proposed rule applies to devices designed as chemical oxygen generators; therefore, this proposed ban applies to devices that are newly manufactured but are not charged with chemicals for the generation of oxygen. The FAA believes that these devices might be manufactured in one location and transported to another location to be charged. This could lead to human errors in determining whether the device designed as a chemical oxygen generator has been charged. The FAA specifically requests comments on whether these devices are manufactured in one location, but charged in another location.

The proposed ban would also apply to fully charged devices that contain a chemical or chemicals that produce oxygen by chemical reaction. Although the prohibition of fully charged devices is similar to RSPA's final prohibition (61 FR 68952), the FAA believes that it is necessary to include it in this rulemaking so as to avoid the confusion of an operator having to consult two different sets of regulations to determine whether fully charged chemical oxygen generators are banned from passenger-carrying operations.

The FAA's proposed ban also would apply to devices designed as chemical oxygen generators that have been discharged and have only some residue remaining or have had all of the chemicals consumed in the generation of oxygen (spent chemical oxygen generators) in both passenger-carrying and all-cargo operations under parts 91, 121, 125, and 135. The FAA believes that there would be an increase in safety by banning all chemical oxygen generators in passenger-carrying operations, even if those devices are believed to have been previously discharged. From reports about the ValuJet accident, it appears that some people might have believed that the

chemical oxygen generators had been previously discharged, when in fact they had not. While it may be true that a chemical oxygen generator that has been discharged does not present an actual fire or smoke threat to aviation, human errors in assessing whether such devices have been discharged can result in catastrophes. The FAA believes that the public interest in reducing the possibility of this type of human error, which could result in loss of life and property, outweighs any public or private interest in the transportation of devices designed as chemical oxygen generators on passenger-carrying operations conducted by air carriers and other commercial operators.

In addition to the general rationale provided above to support the proposed ban on the transportation of devices designed as chemical oxygen generators, the FAA believes that there is additional rationale to support the ban in specific classes of cargo compartments in transport-category aircraft. Although the FAA has not classified the cargo compartments in non-transport category aircraft, the following discussion and analysis of risks in Classes B, C, and D cargo compartments also applies to cargo compartments in non-transport category aircraft that share similar design features.

Concerns Regarding Class B Compartments

One major concern regarding fires in Class B compartments is that the supplemental oxygen breathing system for passengers is not designed to be a system that would protect them from smoke and fumes. Instead, the supplemental oxygen system for passengers was designed to provide a combination of supplemental oxygen and ambient cabin air for use in emergency depressurization situations. When passengers use the supplemental oxygen system, they continue to inhale some amount of ambient air in the cabin. Dangerous or even fatal levels of smoke and fumes are more likely to develop when a fire is fed by a secondary source of oxygen, and would be inhaled by passengers in such a situation. Thus, a fire fed by a secondary source of oxygen creates additional smoke and fume risks to passengers that would not otherwise be present in fires that are not fed by a secondary source of oxygen.

Another problem is that, although all areas of the Class B compartment must be accessible to the contents of a hand-held fire extinguisher, devices designed as chemical oxygen generators in such compartments may not be readily accessible and easily removed from the

location of the fire. In other words, in a Class B compartment the crewmember might not be able to quickly remove a device designed as a chemical oxygen generator from the fire area because of its size, weight, or location. Even if a halon or water fire extinguisher is present, it may not have a sufficient quantity of halon or water to extinguish a fire that continues to re-ignite because it is being fed by a secondary source of oxygen.

Concerns Regarding Class C Compartments

Like Class B compartments, Class C compartments may not adequately protect passengers if an oxygen-fed fire exists. The current means of suppression in Class C compartments is halon. Halon, however, will not always suppress an oxygen-fed fire, and thus the FAA believes it would be in the public interest to ban devices designed as chemical oxygen generators from Class C compartments. Additionally, unlike a Class B compartment that a crewmember can enter, a Class C compartment is not accessible to crewmembers. While the design of a Class C cargo compartment can be very effective in fighting most types of fires, the FAA believes that oxygen-fed fires present an unacceptable risk in this environment since a crewmember cannot remove a device designed as a chemical oxygen generator from the area of the fire.

Concerns Regarding Class D Compartments

Class D cargo compartments have the same problems as Class B and Class C compartments. In addition, smoke and fire detection devices are not required in Class D compartments. The first indication of a fire is generally in the form of smoke or fumes entering the cabin or the flight deck. Another initial indication might be that the passengers or crew realize that the passenger compartment floor has become hot. By the time the flight crew realizes that there might be a fire in the Class D compartment, it may be too late to save the aircraft by making an emergency landing. Also, the crew cannot take direct firefighting measures against a fire in a Class D compartment. Even indirect firefighting measures, such as attempting to starve the fire of oxygen by depressurizing the aircraft, will not be effective if a fully charged device designed as a chemical oxygen generator is involved in the fire. Ultimately the safety of the flight depends on the actions of the crew, and time is of the essence. Since entry into a Class D compartment is not possible, and

depressurization of the cabin with passengers is impractical, the only way the crew could save the aircraft would be to land it as soon as possible, and their ability to do so would depend on the availability of a suitable landing site.

B. All-Cargo Operations

The FAA is also proposing to ban the transportation of any device designed as a chemical oxygen generator in domestic, "all-cargo operations" (as defined in 14 CFR 119.3) conducted under parts 91, 121, 125, and 135 of the Federal Aviation Regulations, with limited exceptions. The ban would apply to any person who carries or acts in any manner that would result in the carriage (shipment) of devices that are the subject of the proposed ban. Much of the analysis of the potential dangers of shipping devices designed as chemical oxygen generators and the possibility of human error in passenger-carrying operations also apply to all-cargo operations. Transport-category aircraft used in all-cargo operations often have Class E compartments that are not found in passenger-carrying, transport-category aircraft.

Exception To Allow for the Transportation of Chemical Oxygen Generators in All-Cargo Operations

The FAA is proposing to allow all-cargo operators under 14 CFR parts 91, 121, 125 and 135 to carry *unexpired* chemical oxygen generators under certain circumstances in both transport and non-transport category aircraft. This exception to the general prohibition would not, however, permit the carriage of those devices designed as chemical oxygen generators that have previously been discharged or those that are newly manufactured but are not charged for the generation of oxygen. Further, a chemical oxygen generator that has passed its expiration (i.e., time-in-service) date is not eligible for the exception, and thus cannot be carried as cargo in an all-cargo operation. Neither the FAA nor RSPA specify the expiration date for such chemical oxygen generators in their regulations. Rather, the expiration date is established through the aircraft certification process and then incorporated into an operator's aircraft inspection program or, in the case of an air carrier with a continuous airworthiness maintenance program, incorporated into its maintenance time limitations.

This proposed exception differs from RSPA's December 30, 1996 final rule, which would allow the carriage of chemical oxygen generators aboard aircraft used in all-cargo operations,

regardless of the expiration date on the generators. This is because RSPA views any chemical oxygen generators, whether expired or unexpired, as having the same inherent risk. The FAA believes, however, that a human performance problem exists that makes the distinction between expired and unexpired generators important. The FAA is concerned that an individual may mistakenly believe that an "expired" chemical oxygen generator is, in effect, no longer a hazard, and thus can be shipped without any of the safeguards imposed by the HMR's. Therefore, to avoid such a mistake, the FAA proposes to ban the shipment of "expired" chemical oxygen generators aboard both passenger and all-cargo operations. Accordingly, if finalized, a person would be in violation of FAA's prohibition if he or she offered "expired" chemical oxygen generators for carriage aboard a domestic all-cargo aircraft, notwithstanding the fact that RSPA's rules permit such carriage. The FAA specifically requests comment on whether the proposed ban on air shipment of "expired" chemical oxygen generators would negatively impact all-cargo operations.

The proposed exception for domestic all-cargo operations is therefore limited to the carriage of *unexpired* chemical oxygen generators (i.e., those that are charged but whose expiration dates have not yet passed), provided that the generators are: (1) Originally prepared and offered for transportation by a RSPA Special Provision 60 approval holder (49 CFR 172.102(c)); (2) labeled and loaded in accordance with the HMRs (49 CFR parts 171–180); (3) separated from other cargo before flight; and (4) restricted to the quantity limits specified in the HMR's.

The FAA believes that the proposed exception to the ban in all-cargo operations strikes the appropriate safety balance for the following reasons: (1) requiring packaging by a RSPA Special Provision 60 approval holder, as well as compliance with the HMR labeling and loading requirements for chemical oxygen generators would reduce the likelihood that accidental activation would occur; (2) the separation requirement, which is broader in scope than RSPA's separation requirement, would reduce the likelihood that such generators are placed beside incompatible hazardous materials, as well as other cargo; and (3) the quantity limitation would ensure that excess carriage of these devices on any one flight does not occur. RSPA's regulations provide physical and performance standards for segregating certain incompatible materials,

including oxidizing substances, from other hazardous materials on aircraft (49 CFR 175.78). FAA's proposal is broader in scope, however, in that devices designed as chemical oxygen generators would have to be separated from all other cargo before flight, not just other incompatible hazardous materials. The FAA specifically requests comments on this approach.

The FAA recognizes that the crew in an all-cargo part 121 operation would have access to protective breathing equipment (PBE) (both smoke and fume and firefighting), which would enable them to function and survive in a fire, smoke and toxic fume environment for a longer period than the crew in a part 135 operation. This is because part 135 operators are not required to have PBE aboard an aircraft. Therefore, the FAA may consider, for a future rulemaking, the extent to which PBE, such as smoke and fume PBE, should be required for part 135 operators transporting certain hazardous cargo.

The FAA requests comment on whether it would be helpful if both RSPA and FAA were to provide cross-references to each other's respective regulations as they pertain to devices designed as chemical oxygen generators. Such cross-referencing would serve to notify all hazardous materials shippers/offers as well as aircraft operators that they must comply with both FAA and RSPA regulations when shipping devices designed as chemical oxygen generators. The FAA also requests comment on how best to inform foreign shippers of the FAA restrictions on the carriage of devices designed as chemical oxygen generators on aircraft operated under parts 91, 121, 125 and 135 of the Federal Aviation Regulations.

III. Exceptions for Materials and Devices That Are Required Parts of the Aircraft or That Are Otherwise Required or Permitted To Be Carried Under FAA Operating Rules

The FAA believes that oxygen devices required to be in aircraft as specified in the FAA's certification and operating rules are safe, as they are maintained in accordance with approved maintenance and airworthiness programs, and are essential for the safety of the crew and passengers. Therefore, devices designed as chemical oxygen generators that are installed in aircraft to conform with aircraft type-certification requirements, or are present to conform with, or permitted to be carried under, FAA operating rules for that particular flight are exempt from the proposed ban. This exception for the carriage of devices designed as chemical oxygen generators under the FAA operating rules is

limited to those items that are required for the particular operation flown, so as to preclude operators from pre-positioning such devices in circumvention of the prohibition.

IV. Economic Summary

Proposed and final rule changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic effect of regulatory changes on small entities. Third, the Office of Management and Budget directs agencies to assess the effect of regulatory changes on international trade. In conducting these analyses, the FAA has determined that the proposed rule would generate benefits that justify its costs and is not an economically significant regulatory action as defined in Executive Order 12866; however, it is considered significant under the Executive Order and DOT Order 2100.5, Policies and Procedures for Simplification, Analysis, and Review of Regulations, because of the public interest involved. The FAA certifies that this proposed rule, if adopted, will not have a significant impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act because almost no newly manufactured devices designed as chemical oxygen generators are expected to be transported by air. The FAA also certifies that this proposed rule, if adopted, will not constitute a barrier to international trade and does not contain any Federal intergovernmental or private sector mandates; therefore, the requirements of Title II of the Unfunded Mandates Reform Act of 1995 do not apply. The Office of Management and Budget (OMB) has reviewed this rule under Executive Order 12866.

Overview

This proposed rule would ban, in certain aircraft, the transportation of devices designed to chemically generate oxygen, including devices that have been discharged and newly manufactured devices that have not yet been charged for the generation of oxygen.

For the following reasons, a shortened regulatory evaluation will be prepared for this proposed rule, which will serve as both the summary and full regulatory evaluation. All but one of the requirements of this proposed rule have

been covered and analyzed by the regulatory evaluation prepared for RSPA's supplemental notice of proposed rulemaking (SNPRM) (62 FR 44374, Aug. 20, 1997). A copy of the full regulatory evaluation for that SNPRM is included in the docket for this proposed rule. The one requirement not covered by RSPA's SNPRM represents the proposed ban for newly manufactured devices that have not yet been charged for the generation of oxygen. That is, this proposed rule includes the ban for newly manufactured devices. Since these newly manufactured devices have little or no economic value and are not considered to be time-critical, they are not expected to be shipped by air. Thus, little or no costs (quantitative or qualitative) are expected to be imposed on the U.S. aviation community. These newly manufactured devices are expected to generate only qualitative safety benefits (such benefits will be discussed in more detail below in the benefits section). Therefore, it is for this reason that the evaluation for this proposed rule will only focus on the potential costs and benefits associated with banning the newly manufactured devices on aircraft operators conducting their operations under parts 91, 121, 125, and 135.

Costs

The FAA has determined that this proposed rule would not impose any additional costs on the U.S. aviation community. Based on conversations with industry and FAA technical personnel, it is unlikely that the newly manufactured devices would be shipped by air because they have little or no economic value. Oxygen generators go through several stages of processing before becoming a fully functional and valued commodity. Because they are shipped in large quantities and not considered to be time-critical, newly manufactured devices are likely to be shipped by rail and truck to the final processing plant(s) for future use as oxygen generators. While the FAA believes this cost assessment to be reasonably accurate, there is still a small element of uncertainty about coverage of all of the potential costs associated with newly manufactured devices. As the result of this uncertainty, the FAA solicits comments from the aviation community as to accuracy of this assessment. The FAA requests that comments be as detailed as possible and cite or include supporting documentation.

Benefits

This proposed rule is considered to be complementary to RSPA's SNPRM and

would generate potential qualitative benefits by ensuring that the enhanced safety benefits of RSPA's SNPRM would be fully realized. This task would be accomplished by reducing the risk of human error in recognizing whether such a device is charged or has been charged, and which could, if inadvertently transported aboard an airplane when charged, initiate or provide a secondary source of oxygen to fuel a fire. While the chance of newly manufactured devices being shipped by air is small, it still could happen in the absence of this proposed ban. Regardless of how small the likelihood may be, this proposed ban would ensure that newly manufactured devices would not be shipped by air; thus, this action would further reduce the chance of mislabeling of oxygen generators due to human error.

V. Initial Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily burdened by government regulations. The RFA requires agencies to review rules that may have a "significant economic impact on a substantial number of small entities."

In terms of regulatory flexibility, the FAA has determined that this proposed rule would not have a significant economic impact on a substantial number of small entities. As stated previously in the cost section of this evaluation, the proposed rule is not expected to impose any compliance costs on those aircraft operators operating under parts 91, 121, 125, and 135.

VI. International Trade Impact Assessment

In accordance with the Office of Management and Budget's memorandum dated March 1983, federal agencies engaged in rulemaking activities are required to assess the effects of regulatory changes on international trade. The FAA finds that the proposed rule would not have a detrimental impact on the trade opportunities for either U.S. firms conducting business abroad or foreign firms conducting business in the United States. This assessment is based on the belief that the proposed rule would not impose any costs on potentially impacted aircraft operators.

VII. Unfunded Mandates

Title II of the Unfunded Mandates Reform Act of 1995 (the Act), enacted as Pub. L. 104-4 on March 22, 1995, requires each federal agency, to the

extent permitted by law, to prepare a written assessment of the effects of any federal mandate in a proposed or final agency rule that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more (adjusted annually for inflation) in any one year. Section 204(a) of the Act, 2 U.S.C. 1534(a), requires the federal agency to develop an effective process to permit timely input by elected officers (or their designees) of State, local, and tribal governments on a proposed "significant intergovernmental mandate." A "significant intergovernmental mandate" under the Act is any provision in a federal agency regulation that will impose an enforceable duty upon State, local, and tribal governments, in the aggregate, of \$100 million (adjusted annually for inflation) in any one year. Section 203 of the Act, 2 U.S.C. 1533, which supplements section 204(a), provides that before establishing any regulatory requirements that might significantly or uniquely affect small governments, the agency shall have developed a plan that, among other things, provides for notice to potentially affected small governments, if any, and for a meaningful and timely opportunity to provide input in the development of regulatory proposals. This proposed rule does not contain any federal intergovernmental mandates. However, it does contain a private sector mandate. Since expenditures by the private sector will not exceed \$100 million annually, because little or no costs are imposed by this proposed rule, the requirements of Title II of the Unfunded Mandates Reform Act of 1995 do not apply.

VIII. Federalism Implications

The regulations proposed herein will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among various levels of government. Thus, in accordance with Executive Order 12612, it is determined that this proposal would not have federalism implications warranting the preparation of a Federalism Assessment.

IX. Paperwork Reduction Act

In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), there are no requirements for information collection associated with this proposed rule.

X. International Compatibility

The FAA has reviewed corresponding International Civil Aviation Organization international rules and

Joint Aviation Authorities rules and has identified no conflicts between these proposed amendments and the foreign requirements and prohibitions. Moreover, these proposed rules, if adopted, will not apply to foreign operators. Nonetheless, the FAA seeks comment on whether there are any differences between the proposed rules and any corresponding ICAO standards.

XI. Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the Federal Aviation Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying 14 CFR in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish such regulatory distinctions as he or she considers appropriate. Because this proposed rule would apply to the operation of both transport and non-transport category airplanes under 14 CFR parts 91, 121, 125, and 135, it could, if adopted, affect intrastate aviation in Alaska. The FAA therefore specifically requests comments on whether there is justification for applying the proposed rule differently to intrastate operations in Alaska.

List of Subjects

14 CFR Part 91

Aircraft, Airmen, Aviation Safety.

14 CFR Part 119

Administrative practice and procedure, Air carriers, Aircraft, Aviation safety, Charter flights, Reporting and recordkeeping requirements.

14 CFR Part 121

Air carriers, Aircraft, Airmen, Aviation safety.

14 CFR Part 125

Aircraft, Airmen, Aviation safety.

14 CFR Part 135

Air taxis, Aircraft, Aviation safety.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend the Federal Aviation Regulations (14 CFR parts 91, 119, 121, 125, and 135) as follows:

PART 91—GENERAL OPERATING AND FLIGHT RULES

1. The authority for part 91 continues to read as follows:

Authority: 49 U.S.C. 106(g), 1155, 40103, 40113, 40120, 44101, 44111, 44701, 44712,

44715, 44716, 44717, 44722, 46306, 46315, 46316, 46504, 46506, 46507, 47122, 47508, 47528, 47531, articles 12 and 29 of the Convention on International Civil Aviation (62 stat. 1180).

2. Amend § 91.1 by adding paragraph (c) to read as follows:

§ 91.1 Applicability.

* * * * *

(c) Each person who carries, or acts in any manner that would result in the carriage of, a device designed as a chemical oxygen generator is required to comply with the prohibitions in § 91.20 of this part.

3. Section 91.20 is added to read as follows:

§ 91.20 Prohibitions on the carriage of devices designed as chemical oxygen generators.

(a) Except as provided in paragraphs (b) and (c) of this section, no person may carry, or act in any manner that could result in the carriage of a device designed as a chemical oxygen generator, as defined in paragraph (d) of this section. This section is not intended to affect a person's obligation to comply with 49 CFR 172.101 and 173.21.

(b) For all-cargo operations, an unexpired chemical oxygen generator may be transported if it is originally prepared and offered for transportation by a RSPA Special Provision 60 approval holder (49 CFR 172.102(c)), and in accordance with the labeling and loading requirements of the Hazardous Materials Regulations (49 CFR parts 171 through 180), provided—

(1) It is located in a Class B or E cargo compartment, or a compartment that is equipped with a fire/smoke detection system;

(2) It is separated from other cargo before flight; and

(3) The quantity carried does not exceed the quantity limits specified in the Hazardous Materials Regulations (49 CFR parts 171 through 180).

(c) This section does not apply to chemical oxygen generators that are installed to meet aircraft certification requirements or are carried to meet other requirements of this part for that particular flight.

(d) For purposes of this section, a "device designed as a chemical oxygen generator" includes—

(1) A device that is charged with or contains a chemical or chemicals that produce oxygen by chemical reaction, regardless of whether the expiration date for the device has passed;

(2) A device that has been discharged and thus has already produced oxygen by chemical reaction, regardless of whether there is residue remaining in the device; and

(3) A device that is newly manufactured but not charged with chemicals for the generation of oxygen..

PART 119—CERTIFICATION: AIR CARRIERS AND COMMERCIAL OPERATORS

1. The authority for part 119 continues to read as follows:

Authority: 49 U.S.C. 106(g), 1153, 40101, 40102, 40103, 40113, 44105, 44106, 44111, 44701–44717, 44722, 44901, 44903, 44904, 44906, 44912, 44914, 44936, 44938, 46103, 46105.

2. Section 119.3 is amended by adding the following definition in alphabetical order:

§ 119.3 Definitions.

* * * * *

Chemical oxygen generator means a device that produces oxygen by chemical reaction.

* * * * *

PART 121—OPERATING REQUIREMENTS: DOMESTIC, FLAG, AND SUPPLEMENTAL OPERATIONS

1. The authority citation for part 121 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 40119, 44101, 44701–44702, 44705, 44709–44711, 44713, 44716–44717, 44722, 44901, 44903–44904, 44912, 46105.

2. Amend § 121.1 by adding paragraph (g) to read as follows:

§ 121.1 Applicability.

* * * * *

(g) Each person who carries, or acts in any manner that would result in the carriage of, a device designed as a chemical oxygen generator is required to comply with the prohibitions in § 121.540.

3. Section 121.540 is added to read as follows:

§ 121.540 Prohibitions on the carriage of devices designed as chemical oxygen generators.

(a) Except as provided in paragraphs (b) and (c) of this section, no person may carry, or act in any manner that could result in the carriage of, a device designed as a chemical oxygen generator, as defined in paragraph (d) of this section. This section is not intended to affect a person's obligation to comply with 49 CFR 172.101 and 173.21.

(b) For all-cargo operations, an unexpired chemical oxygen generator may be transported if it is originally prepared and offered for transportation by a RSPA Special Provision 60 approval holder (49 CFR 172.102(c)) , and in accordance with the labeling and loading requirements of the Hazardous

Materials Regulations (49 CFR parts 171 through 180), provided—

(1) It is located in a Class B or E cargo compartment, or a compartment that is equipped with a fire/smoke detection system;

(2) It is separated from other cargo before flight; and

(3) The quantity carried does not exceed the quantity limits specified in the Hazardous Materials Regulations (49 CFR parts 171 through 180).

(c) This section does not apply to chemical oxygen generators that are installed to meet aircraft certification requirements or are carried to meet other requirements of this part for that particular flight.

(d) For purposes of this section, a “device designed as a chemical oxygen generator” includes—

(1) A device that is charged with or contains a chemical or chemicals that produce oxygen by chemical reaction, regardless of whether the expiration date for the device has passed;

(2) A device that has been discharged and thus has already produced oxygen by chemical reaction, regardless of whether there is residue remaining in the device; and

(3) A device that is newly manufactured but not charged with chemicals for the generation of oxygen.

PART 125—CERTIFICATION AND OPERATIONS: AIRPLANES HAVING A SEATING CAPACITY OF 20 OR MORE PASSENGERS OR A MAXIMUM PAYLOAD CAPACITY OF 6,000 POUNDS OR MORE

1. The authority citation for part 125 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701–44702, 44705, 44710–44711, 44713, 44716–44717, 44722.

2. Amend § 125.1 by adding paragraph (d) to read as follows:

§ 125.1 Applicability.

* * * * *

(d) Each person who carries, or acts in any manner that would result in the carriage of, a device designed as a chemical oxygen generator is required to comply with the prohibitions in § 125.335.

3. Section 125.335 is added to read as follows:

§ 125.335 Prohibitions on the carriage of oxidizers and devices designed as or used for the generation of oxygen.

(a) Except as provided in paragraphs (b) and (c) of this section, no person may carry, or act in any manner that could result in the carriage of, a device designed as a chemical oxygen generator

as defined in paragraph (d) of this section. This section is not intended to affect a person's obligation to comply with 49 CFR 172.101 and 173.21.

(b) For all-cargo operations, an unexpired chemical oxygen generator may be transported if it is originally prepared and offered for transportation by a RSPA Special Provision 60 approval holder (49 CFR 172.102(c)) , and in accordance with the labeling and loading requirements of the Hazardous Materials Regulations (49 CFR parts 171 through 180), provided—

(1) It is located in a Class B or E cargo compartment, or a compartment that is equipped with a fire/smoke detection system,

(2) It is separated from other cargo before flight; and

(3) The quantity does not exceed the quantity limits specified in the Hazardous Materials Regulations (49 CFR parts 171 through 180).

(c) This section does not apply to chemical oxygen generators that are installed to meet aircraft certification requirements or are carried to meet other requirements of this part for that particular flight.

(d) For purposes of this section, a “device designed as a chemical oxygen generator” includes—

(1) A device that is charged with or contains a chemical or chemicals that produce oxygen by chemical reaction, regardless of whether the expiration date for the device has passed;

(2) A device that has been discharged and thus has already produced oxygen by chemical reaction regardless of whether there is residue remaining in the device; and

(3) A device that is newly manufactured but not charged with chemicals for the generation of oxygen.

PART 135—OPERATING REQUIREMENTS: COMMUTER AND ON-DEMAND OPERATIONS

1. The authority citation for part 135 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701–44702, 44705, 44709, 44711–44713, 44715–44717, 44722.

2. Amend § 135.1 by adding paragraph (e) to read as follows:

§ 135.1 Applicability.

* * * * *

(e) Each person who carries, or acts in any manner that would result in the carriage of, a device designed as a chemical oxygen generator is required to comply with the prohibitions in § 135.88.

3. Section 135.88 is added to read as follows:

§ 135.88 Prohibitions on the carriage of devices designed as chemical oxygen generators.

(a) Except as provided in paragraphs (b) and (c) of this section, no person may carry, or act in any manner that would result in the carriage of, a device designed as a chemical oxygen generator as defined in paragraph (d) of this section. This section is not intended to affect a person's obligation to comply with 49 CFR 172.101 and 173.21.

(b) For all-cargo operations, an unexpired chemical oxygen generator may be transported if it is originally prepared and offered for transportation by a RSPA Special Provision 60 approval holder (49 CFR 172.102(c)) , and in accordance with the labeling and loading requirements of the Hazardous

Materials Regulations (49 CFR parts 171 through 180), provided—

(1) It is located in a Class B or E cargo compartment or a compartment that is equipped with a fire/smoke detection system;

(2) It is separated from other cargo before flight; and

(3) The quantity carried does not exceed the quantity limits specified in the Hazardous Materials Regulations (49 CFR parts 171 through 180).

(c) This section does not apply to chemical oxygen generators that are installed to meet aircraft certification requirements or are carried to meet other requirements of this part for that particular flight.

(d) For purposes of this section, a “device designed as a chemical oxygen generator” includes—

(1) A device that is charged with or contains a chemical or chemicals that produce oxygen by chemical reaction, regardless of whether the expiration date for the device has passed;

(2) A device that has been discharged and thus has already produced oxygen by chemical reaction, regardless of whether there is residue remaining in the device; and

(3) A device that is newly manufactured but not charged with chemicals for the generation of oxygen.

Issued in Washington, DC on August 21, 1998.

Richard O. Gordon,

Acting Director, Flight Standards Service.

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