ICAO **TENTH MEETING OF THE REGIONAL AVIATION SAFETY GROUP - ASIA AND PACIFIC REGIONS (RASG-APAC/10)**

(Bangkok, Thailand, 17-18 December 2020 on Virtual Platform)

Agenda Item 5: ICAO / Member State / Industry Presentations

MANAGING SAFE AND EFFICIENT COVID-19 VACCINE TRANSPORTATION BY AIR IN THE UNITED STATES

(Presented by the United States of America)

SUMMARY

Since the onset of the COVID-19 public health emergency, the Federal Aviation Administration (FAA) has worked proactively with other U.S. government agencies, air carriers, and other aviation stakeholders to enable the safe and efficient transportation by air of critical medical supplies and personnel. As part of the U.S. Department of Transportation's overall efforts, the FAA established the "FAA COVID-19 Vaccine Air Transport Team" in October 2020 to aid in the safe, expeditious, and efficient transportation of vaccine(s). Several vaccines need continued cold temperatures during transport, which, in some circumstances, require dry ice (a hazardous material) to maintain very low temperature. The FAA is working with manufacturers, air carriers, and other aviation stakeholders to provide guidance on implementing current regulatory requirements for safely transporting large quantities of dry ice in air cargo. In addition to mitigating safety hazards related to the safe transportation of vaccine(s) by air, the FAA is working with stakeholders to determine any additional needs for air navigation services support, including prioritization, for flights carrying COVID-19 vaccine(s), as well as offering around-the-clock air traffic services to keep air cargo moving seamlessly and providing personnel critical to the nation's response to and recovery from COVID-19.

1. INTRODUCTION

1.1. The FAA began working COVID-19-related challenges in January 2020 and subsequently established the COVID-19 Incident Management Team (IMT) in March, to coordinate and manage the agency's response to the unique and urgent challenges to the National Airspace System and within the Agency as well. The IMT is staffed by personnel from all relevant disciplines to address the many facets of the aviation system impacted by COVID-19, such as limiting interruptions of air traffic services, promulgating new or revised internal policies/procedures and external guidance for the regulated community—sometimes in coordination with other U.S. Government agencies—and coordinating exemptions and special authorizations, as necessary. This integrated approach was further refined while enabling global repatriation flights and the transport of personal protective equipment.

1.2 The FAA created the COVID-19 Vaccine Air Transport Team ("The Vaccine Team") in October 2020. The Vaccine Team has since employed a multi-disciplinary, integrated approach to coordinate FAA planning and preparedness related to the safe and efficient air transportation of COVID-19 vaccine(s). The Vaccine Team is actively engaging external stakeholders to share ideas, successes, and challenges, as well as to gather information related to the transportation by air of the COVID-19 vaccines being developed around the world. As potential issues emerge, the Vaccine Team leverages existing FAA policies and procedures to explore and address potential aviation safety issues.

2. DISCUSSION

2.1. Due to the myriad operational considerations associated with vaccine transportation by air, the COVID-19 Vaccine Air Transport Team is assessing information from all impacted stakeholders, such as U.S. Government agencies, vaccine manufacturers and distributors, and air carriers, about their respective air transportation plans, including but not limited to routes, dates, aircraft and flight type, and any special handling needs. The Vaccine Team's internal coordination and communication enables the vaccine(s) to be transported by air in a timely, efficient, safe, and secure manner.

2.2. The COVID-19 Vaccine Air Transport Team utilizes this integrated and multi-disciplinary approach to address potential aviation issues and outcomes within FAA's scope of responsibility in the following key areas:

2.2.1. Risk Management – The amount of dry ice that can be safely carried on an aircraft is a function of dry ice sublimation rate, aircraft system capabilities, airline procedures, and risk mitigation controls. Packaging advancements can also result in a decrease in the sublimation rate of dry ice and enable an increase in capacity of dry ice that can be safely carried on an aircraft. Air carriers, working closely with the FAA, are using Safety Risk Management under their Safety Management Systems (SMS) to evaluate their ability to safely increase the amounts of dry ice that they carry, as well as determine any additional required safety mitigations. The FAA reviews the air carrier's risk assessment and mitigation plan for acceptance of the air carrier's safety approach. This includes review of the air carrier's identified hazards, risk controls, and mitigation strategies to allow the safe operation of the aircraft under the specific conditions presented by carriage of increased amounts of dry ice that accompany some of the COVID-19 vaccines. The FAA also recommends that air carriers and operators without an FAA-approved SMS conduct safety analyses and determine risk mitigations when planning to transport increased quantities of dry ice. On December 10, the FAA issued a Safety Alert for Operators that identifies specific considerations related to the air transport of dry ice.

2.2.2. Airworthiness – The FAA is currently conducting research and testing on packaging and its impact on the sublimation rate of dry ice, particularly at various altitudes, and plans to make de-identified results available to the public.

2.2.3. Flight Operations – The FAA is engaging with air carriers and operators to identify issues, actions, and potential needs for regulatory authorizations, approvals, and permits to enable safe flight operations and provide guidance and information to operators and inspectors to promote a consistent approach to aviation safety.

2.2.4. Aeromedical – The FAA is researching the CO_2 impact on aircraft crew and necessary mitigation efforts, as well as evaluating the use of each vaccine by medical certificate and medical clearance holders as soon as an emergency use authorization (EUA) is issued. On December 12, the day after the U.S. Food and Drug Administration issued the EUA for the first COVID-19

vaccine in the U.S., the FAA issued a policy statement approving pilots and air traffic controllers to receive the two-dose vaccine subject to a 48-hour waiting period after each dose before resuming sensitive-safety functions.

2.2.5. Air Traffic Control/Airspace Management – The FAA will track, prioritize, and coordinate vaccine flights throughout the U.S. national airspace, as necessary, and has established supporting processes to also monitor and report information about the movement of vaccine(s) by air.

2.2.6. Airport Operations – On December 11, the FAA provided guidance to U.S. airports on operational considerations during vaccine transportation by air, including coordination with local, state, and federal government agencies on security and inspections; airport capacity and design capabilities; evaluation of current Airport Rescue and Fire Fighting coverage at primary and divert airports; and vehicle and pedestrian operations.

2.2.7. Carriage of Dangerous Goods/Hazardous Materials – Air carriers and operators must continue to follow existing requirements for the transport by air of dry ice in packages, as well as for lithium battery powered data loggers/trackers that may accompany vaccine shipments. The FAA has addressed issues related to lithium battery powered data loggers/trackers in Advisory Circular 91.21-1D - *Use of Portable Electronic Devices Aboard Aircraft*.

2.2.8. Communication/Collaboration – The COVID-19 Vaccine Air Transport Team also recognizes that effective communication and timely information sharing are critical to the success of the overall vaccine distribution effort. Of particular importance is the development of processes to communicate information about flights carrying vaccine(s) to U.S. and foreign government authorities, as well as information sharing about potential barriers to efficient and safe air transportation of the vaccine(s) around the world.

3. CONCLUSION

3.1. The FAA actively participates in many International Civil Aviation Organization (ICAO) forums to address COVID-19 response measures, global aviation system recovery guidance, and most recently, any of the unique technical requirements associated with transportation of COVID-19 vaccine(s) by air. These forums include: regional forums; the Flight Operations Panel; Aviation Security (AVSEC) Panel; Task Force on Health Issues Outbreaks in Aviation; Dangerous Goods Panel; ICAO Council Aviation Recovery Task Force (CART); and the Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA). FAA participation in these forums has led to the creation and furtherance of the ICAO COVID-19 Safety Operational Measures website.

3.2. The global aviation community will play an integral role in achieving the safe, efficient, timely, and secure distribution of COVID-19 vaccine(s); the delivery of these vaccines will also aid in the recovery of the air transportation industry. The FAA will continue to share best practices and actively engage with the aviation community to address the current and evolving challenges posed by the scope, volume, and time constraints of transporting these vaccines by air.

4. ACTION BY THE MEETING

4.1. The Meeting is invited to Note the information contained in this paper.

— END —