

#### Praxis Aerospace Concepts International Inc. (PACI)

- PACI agrees with the FAA's need to gather information on how airports are integrating UAS, or drones, and what their current and future needs are for drone planning, design, and infrastructure. PACI thinks this is a key safety factor for making UAS operations in the NAS normal. This is essential for the safety of the NAS, commercial rotorcraft, and the public.

FAA Response: Thank you for the support for this FAA information collection.

- PACI requests to participate in the FAA's interviews with stakeholders in person or virtual meetings.

FAA Response: Thank you for your interest in the FAA's information collection. The FAA will interview PACI one-on-one as part of this collection. Likewise, invitations with other stakeholders will include only the stakeholder and the FAA.

- PACI strongly recommends that the FAA broaden its scope to specifically include professional operators of small Unmanned Aircraft Systems (sUAS), those weighing under 55 pounds as defined by the FAA and Public Law. This segment, notable for its significant number of operators and volume of aircraft, plays a pivotal role in influencing low-altitude airspace and operations at various airports. The inclusion of this group is essential given its substantial presence and potential impact on aviation dynamics.

FAA Response: The FAA plans to include professional operators of sUAS, to include those weighing under 55 pounds as defined by public law.

- In addition to our commitment to information collection activities, PACI proposes the following recommendations to the FAA for consideration: Low-Altitude Air Operations, Part 157 Application, Adherence to Existing Rules, Charting Needs, Radio Frequency Allocation, Database Tracking (ASIAS), Emergency Landing Reserves, Form 7480-1 Notification, Performance-Based Definitions for VTOL and STOL, ADIP Access by OEMs.

FAA Response: The FAA will take PACI's recommendations into consideration.

#### Droneport Network

- DronePort Network believes a comprehensive understanding of UAS Integration into the airport environment will be critical to the safety and scalability of the commercial drone industry. The droneport concept and definition requires input from a diverse set of stakeholders and so the FAA's desire to collect and analyze that information is of critical importance.

FAA Response: The FAA agrees that the droneport concept and definition requires input from a diverse set of stakeholders. The FAA plans to collect UAS integration/ 'droneport related' information from a diverse set of stakeholders, which will include, but is not limited to:

airport/droneport operators, private entities, original equipment manufacturers, industry organizations, academia, representatives of the military, aviation stakeholders, etc.

#### Vertical Aviation International

- We also strongly recommend the FAA finalize a definition for “droneport,” and agree this data collection effort could be an effective means to address that objective.

FAA Response: Based on the results of this research effort, the FAA may develop a formal definition for a droneport.

- Finally, VAI would recommend the FAA not primarily focus on aircraft weighing 55 pounds or more, but, instead, focus on the scope of operations; regardless of aircraft weight. Depending on the type of commercial operation, we can reasonably predict that fleets of unmanned aircraft that weigh less than 55 pounds will be in use. These fleets will need droneports and, as such, should be covered by this study.

FAA Response: The FAA plans to include professional operators of sUAS, to include those weighing under 55 pounds as defined by public law.

#### Kansas State University Salina

- The need for a formal definition for “droneport” is critical as more airports are looking to make UAS operations routine both on and around airport property.

FAA Response: Based on the results of this research effort, the FAA may develop a formal definition for a droneport.

- At this time, KSU would recommend the addition of electric vehicle experts to the stakeholder interviews, as these larger UAS are incorporated into existing airport infrastructure or separated into a “droneport,” most of the infrastructure changes will center around charging and electric grid expansion. Thus, incorporating experts who have built these larger charging stations will benefit the FAA’s understanding of the electric grid capacity needs to reduce the impact on the existing airport operations and the surrounding community’s electric grid.

FAA Response: The FAA will consider adding electric vehicle experts to the stakeholder interviews.

- KSU would also suggest not narrowing the focus to only aircraft under 55 pounds, instead, look at the types of operations that airports are most interested in utilizing at their location. These “droneports” may be essential for various operations regardless of UAS size or weight and thus should be included in this effort.

FAA Response: The FAA plans to include professional operators of sUAS, to include those weighing under 55 pounds as defined by public law.

### FPV Freedom Coalition

- The FPV Freedom Coalition requests the FAA explicitly include operators and manufacturers of UAS of weights less than 55 pounds (sUAS as defined by the FAA) as this cohort is far larger by number of operators, number of vehicles and potential disruption to airport operations.

FAA Response: The FAA plans to include professional operators of sUAS, to include those weighing under 55 pounds as defined by public law.

- The FPV Freedom Coalition requested a copy of the referenced, in the Federal Register as, “On May 9, 2023, the FAA’s Office of Airports—Airport Emerging Entrants Division (AAS–200) officially sent the FAA’s Airport Technology Research and Development Branch (ATR) a ‘Request for Research’ to conduct research on Unmanned Aircraft System (UAS) Integration at Airports and Necessary Planning, Design, and Physical Infrastructure Needs. This ‘Request for Research’ was reviewed and approved by the Research, Engineering, and Development Advisory Committee (REDAC) Subcommittee on Airport”. The FAA declined to provide a copy of this report stating it was an internal FAA document. The FPV Freedom Coalition again requests a copy of this document as it certainly informs the FAA’s thinking on this topic and should be available to the public.

FAA Response: Office of Airports research requests are an internal coordination process with the William J Hughes Technical Center (WJHTC) and not shared publicly. This FRN describes a collection of information intended to support a broader research effort. In response to an inquiry from the FPV Freedom Coalition, on February 29, 2024, the FAA provided details of the broader research request in conjunction with this FRN.

### AUVSI

- As the world’s largest non-profit organization dedicated to the advancement of uncrewed systems, autonomy, and robotics, we would expect to be included among the conversations associated with this information collection activity.

FAA Response: Thank you for your interest in the FAA’s information collection. The FAA will interview AUVSI one-on-one as part of this collection. Likewise, invitations with other stakeholders will include only the stakeholder and the FAA. The FAA may work with AUVSI to identify applicable members for this collection.

- At this time, AUVSI has a concern relevant to the scoping of the effort and the questions that may be considered: Specifically, the addition of “droneport” as a separate type of infrastructure brings a risk of unintended consequences.

FAA Response: Based on the results of this research effort, the FAA may develop a formal definition for a ‘droneport.’ If the FAA develops a formal definition for a ‘droneport’ the agency will take AUVSI’s concern related to ‘separate type of infrastructure’ into consideration.

- Care should be taken to ensure that such a change is truly additive and not ultimately restrictive, or unnecessarily complicated, when it comes to the ability of uncrewed aircraft to utilize existing infrastructure, including airports, seaplane bases, and heliports. Many larger uncrewed aircraft have the same infrastructure needs as comparable manned aircraft and should be able to interoperate at the same infrastructure as their manned counterparts based on their performance capabilities and existing operational rules and procedures.

FAA Response: During the planned collection process, the FAA will be gathering information from unmanned aircraft (UA) operators on how they are integrating UAs into existing airports and landing facilities. This includes collecting information from the operators on steps they took to integrate UAs into existing airport<sup>1</sup> infrastructure/operations (e.g., planning, stakeholder coordination, infrastructure changes/improvements needed to accommodate the UA, etc.). Additionally, the FAA may be able to adopt steps taken to integrate UAS into existing infrastructure, lessons learned, etc., through proper vetting with applicable FAA subject matter experts and possible assessments.

The information collected may be used to possibly shape standards and guidance material on how large UAS can operate at existing airports.

#### ALPA

- ALPA requests to participate in the FAA's interviews with stakeholders in person or virtual meetings.

FAA Response: Thank you for your interest in the FAA's information collection; however, invitations will include only the stakeholder they will be interviewing/collecting information from and FAA research personnel and FAA contractors supporting this effort.

- ALPA recommendation: In addition to our support for the information collection activities, ALPA offers the following recommendations to the FAA, for consideration:
  - The FAA should establish and host a database where de-identified data collected from this information collection activity can be used as a source of information to improve safety. The database can use the information that is collected from airports, vertiports, and droneports in the NAS with UAS operations. The establishment of this database would increase the FAA's ability to analyze information across the NAS such as high-volume traffic airspace areas and potential trend events. While ALPA is supportive of the creation of the de-identified database for monitoring NAS safety and security, ALPA is not recommending a punishment-based corrective action program. Instead, ALPA is suggesting that a database is the first step that the FAA needs to take to raise awareness of the increased risks associated with high-volume drone operations in the NAS.

FAA Response: The FAA will make a summary of the collection available to the public through a final report, which will be published on the FAA's Airport Safety Papers & Publications website. The FAA will send each stakeholder a summary of their

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<sup>1</sup> 14 CFR 1.1 "Airport"

meeting/discussion (i.e., responses to the scripted questions) in advance of publication for review and edit. This will ensure that all the information collected during the meeting/discussion is accurate.

<https://www.airporttech.tc.faa.gov/Products/Airport-Safety-Papers-Publications>

- The FAA's information collection activities should document the varied and diverse use cases for UAS (drones) for operations on public airports, including Part 139 airports, as well as private airports and or droneport. This should include several major airports and associated droneports / vertiports large metroplex areas such as Chicago, Los Angeles, and New York. In addition, data collection of drone operations in the vicinity of large-scale all-cargo operations would be extremely valuable. All of these types of facilities provide potentially desirable locations for initial operations, but not all of them may be suitable for safe integration at airports.

FAA Response: The FAA plans to document the concepts of operation for UAS (drones) for operations on public airports, including Part 139 airports, as well as private airports and or droneport. An example would include, but is not limited to, package delivery.

- The information collection should also consider and take note of the different types of aircraft (i.e., small UAS (sUAS, under 55Lbs., Powered -Lift, Airplane, and or Rotorcraft) that will be operating at the airports and droneports.

FAA Response: The FAA plans to include professional operators of sUAS, to include those weighing under 55 pounds as defined by public law.

- Many of the 'new aircraft' propose to be powered by hydrogen, electric and or various hybrid systems that utilize current aviation fuels. Therefore, the FAA should collect information on whether changes to Airport Rescue and Fire Fighting (ARFF) tactics are necessary. The FAA should also collect information on whether changes to the volume of resources (personnel and equipment) are necessary.

FAA Response: The FAA will collect information on whether an airport/droneport operator made the following changes to incorporate 'new aircraft':

- 1) Airport Rescue and Fire Fighting (ARFF) tactics; and
- 2) Volume of resources (personnel and equipment) that are necessary.

The FAA is currently researching ARFF tactics for electric and hydrogen aircraft and may include UAS at the appropriate time.

- Further data collection is needed to assess adequate and dependable electrical grid connectivity and capacity capable of supporting the charging demands of electric drones and/or AAM vehicles without negatively impacting the airport and its critical electrical infrastructure. Unreliable power could affect Air Traffic Control (ATC) communications, navigation and surveillance systems used for safety-of-life operations.

FAA Response: The FAA will collect information on from stakeholders on UAS charging demands.

There have been several research initiatives related to electric infrastructure which include the following:

- Airport Cooperative Research Program (ACRP) project on Preparing for Hydrogen at Airports (03-75).
- U.S. Department of Energy Office of Scientific and Technical Information - Federal Aviation Administration Vertiport Electrical Infrastructure Study (December 2023).
- U.S. Department of Energy Office of Scientific and Technical Information - Overview of Potential Hazards in Electric Aircraft Charging Infrastructure (October 2023).
- Airport Cooperative Research Program (ACRP) project on 'Guidance for Planning for Future Electric Vehicle Growth at Airports (ACRP 03-71). (January 2023).
- U.S. Department of Energy Office of Scientific and Technical Information - Addressing Electric Aviation Infrastructure Cybersecurity Implementation (December 2022).

The FAA may consider additional research question on electrical grid connectivity and capacity capable of supporting the charging demands of electric drones and/or AAM vehicles without negatively impacting the airport and its critical electrical infrastructure.

- Wake Turbulence can have a pronounced effect on the safety of other aircraft operations even during ground operations. The FAA should collect information on the effect of traditional aircraft wake turbulence on UAS/drones that are conducting operations in close proximity.

FAA Response: The FAA will attempt to collect information on the effect of traditional aircraft wake turbulence on UAS/drones that are conducting operations in close proximity.

#### Small UAV Coalition

- Considering the many categories of aviation stakeholders, the Coalition recommends that the FAA send the survey to all drone organizations, which in turn will disseminate the survey to its members, rather than the FAA select only a handful of survey recipients among "original equipment manufacturers, private entities, and UA industry vendors."

FAA Response: The FAA welcome's the Small UAV Coalition's offer to disseminate the survey to applicable members. The FAA will consider the Coalition's recommendations about sending the survey to all drone organizations, which it turn will disseminate the survey to its members, rather than the FAA select only a handful of survey recipients among "original equipment manufacturers, private entities, and UA industry vendors."

The FAA does plan to conduct its own outreach, which may include organizations that are not members of a drone organization.

- The Coalition is concerned with the term "droneport" in the notice, as this term is not defined in the Federal Aviation Regulations, FAA orders or advisory circulars (a fact the FAA acknowledges) or is even part of the common vernacular. This is not surprising, because the typical surface area drone operators use for takeoffs and landings is smaller by many orders of magnitude than the smallest general aviation airport and is also quite smaller than the smallest heliport in operation or vertiport in design. The area a drone operator uses for takeoff and landing, as well as delivery services, is not a "port" in the traditional sense. The FAA's use of this new term implies that drones use or will need to use ports when the term "takeoff and landing" area or site is more accurate.

FAA Response: As discussed in the FRN: currently, no formal FAA definition of droneport currently exists. Based on the results of this research effort, the FAA may develop a formal definition for a droneport.

Based on possible conclusions of the information collection and research, a 'droneport' could possibly be a standalone facility (landing area) and/or integrated (co-located) with an existing takeoff and landing area (e.g., airport).

- The FAA is also interested in which airports may be integrating drones into the airport environment. Given the nature of this information collection notice, this interest should be focused on accommodating takeoff and landing of drones, rather than drones operating in the airspace above an airport or the use of drones by an airport (e.g., for perimeter security). As stated above, the Coalition expects the drone industry is not looking to use legacy airport airfield or terminal property (or heliports) for takeoffs and landings.

FAA Response: The FAA agrees with the Coalition's *statement 'Given the nature of this information collection notice, this interest should be focused on accommodating takeoff and landing of drones, rather than drones operating in the airspace above an airport or the use of drones by an airport (e.g., for perimeter security)'*. To clarify, the FAA is focusing on collecting information for: 1) how operators are integrating large UAS into existing landing facilities/infrastructure and if modifications are needed; and 2) what are the potential design standards for a standalone UAS landing facility/infrastructure.

- The notice states that the survey "will primarily focus on UAS aircraft weighing 55 pounds or more and include operational considerations for cargo transport. Vehicles with weights lower than 55 pounds will be considered where applicable." 89 Fed. Reg. at 7436. The Coalition recognizes that cargo transport drone operations, whether fixed-wing or rotary, may opt to use existing airports and heliports. However, the Coalition does not believe that a drone weighing more than 55 pounds is any more in need of the physical infrastructure of an airport or heliport than a drone weighing less. Whatever the basis may be for the FAA's definition of "small" drone in Part 107, that distinction has little relevance to the question of airport or infrastructure needs. Applicants seeking an exemption under 49 U.S.C. section 44807 - because the drone weighs more than 55 lbs. - typically propose to operate a drone weighing from a few pounds over the Part 107 limit to several hundred pounds in the case of agricultural spraying operations, a far cry in either case from cargo transport category operations.

FAA Response: Based on the results of this research effort, the FAA may develop a formal definition for a 'droneport'. If the FAA develops a formal definition for a 'droneport' the FAA will take the Small UAV Coalition's above mentioned recommendations into consideration.

- The FAA is conducting this survey to inform its establishment of "infrastructure design requirements and safety standards for existing and standalone facilities referred to as a droneport." 89 Fed. Reg. at 7436. The Coalition urges the FAA, based on the information it obtains from this survey, not to adopt design or safety standards unless necessary to do so. Current drone operators, using drones weighing under as well as over 55 lbs. have developed a wide variety of takeoff and landing sites, of varying size and complexity, which the FAA may consider "standalone facilities." The Coalition suggests that existing (as well as future) performance standards should suffice to ensure the safety of takeoffs and landings rather than adopting prescriptive design or safety standards.

FAA Response: The FAA is conducting this collection (survey) to catalog current and planned droneport planning, design, and infrastructure needs, and where UAS are being integrated into the airport environment. The information collected is anticipated to inform FAA of how aviation stakeholders are integrating UAS into existing airports under current design standards/infrastructure as well as standalone facilities that may be defined as a droneport.

As stated in the FRN, the results from this research effort will be summarized in a final report and will be used to shape the FAA's operational evaluations and possible development of standards and guidance documents pertaining to planning, design, and physical infrastructure needs, as well as safety standards, for fixed-wing UAS and rotary UAS operations. In addition, the FAA will not solely rely on this effort (survey) to inform its establishment of "infrastructure design requirements and safety standards for existing and standalone facilities referred to as a droneport."

The FAA anticipates that research and development will be needed to develop droneport standards and guidance material. However, there may be an item(s) that the FAA learns during the collection (survey) that could be adopted in standards and guidance material. In these cases, the FAA will assess this item(s) with the appropriate subject matter experts. This research will attempt to validate exiting standards and identify gaps to include recommendations for performance-based standards, if applicable.

## Five-Alpha

- Droneport Needs Statement

To accomplish this effort the following will need to occur:

- Properly define the term "Droneport".
- Develop physical design standards for Droneports.
- Develop airspace standards for Droneports.
- Determine minimum performance standards for aircraft.
- Add Droneports to the FAA Airport Master Record Database.
- Develop and implement processes for establishing Droneports.

- Develop forms for the development and installation of a Droneport.
- Develop standards for the charting of Droneports.
- Provide the FAA with regulatory authority over Droneports.
- Develop and provide education for FAA, DOT and NTSB officials on Droneports.

FAA Response: Currently, no formal FAA definition of droneport currently exists. Based on the results of this research effort, the FAA may develop a formal definition for a droneport.

The FAA will take the 'droneport needs statement' into consideration. Currently, the FAA is focused on collecting information from aviation stakeholders on 'droneports', which will also be used to help the FAA to shape future droneport research efforts and possible standards and guidance material.

- Proposed definition

For those locations that support sUAS and UAS aerial platforms only:

**Droneport:** An airport whose physical design characteristics, visual aids, navigation aids, weather reports and infrastructure are created to support safe and effective unmanned aircraft systems operations in and out of densely populated urban areas as well as to and from rural areas.

For those locations that support a mix of helicopter, eVTOL, VTOL, sUAS and UAS aerial platforms:

**Multiport:** An airport whose physical design characteristics, visual aids, navigation aids, weather reports and infrastructure are created to support safe and effective helicopter, eVTOL, VTOL and Unmanned Aircraft Systems operations in and out of densely populated urban areas as well as to and from rural areas.

FAA Response: The FAA will take the proposed droneport definitions into consideration.

- The FAA should categorize any facility as a droneport if it would meet the requirements of 14 CFR Part 157.1 if the operator was using crewed aircraft. This would serve to educate the traditional operators.

FAA Response: The FAA will take the droneport facility categorization recommendation into consideration.

- Aeronautical Charting Recommendations

For un-towered airports without crewed aircraft operations (droneports)

1. Update charts with the existing and accepted Unverified Airport symbol, representing a landing area available but warranting more than ordinary precaution due to (1) lack of current information on field conditions, and/or (2) available information indicates peculiar operating limitations.

2. Update charts with UA symbol for Miscellaneous Activity Areas from the Aeronautical Chart Users' Guide (Recommendation to include the MULTICOM frequency)

For UAS areas without a droneport and FAA-Recognized Identification Areas (FRIAs)

1. Update charts with UA symbol for Miscellaneous Activity Areas from the Aeronautical Chart Users' Guide (Recommendation to include the MULTICOM frequency in a manner similar to the policy currently in place for parachute jumping areas).

2. For temporary facilities (such as drone races), the NOTAM should include authorization for use of MULTICOM by a dedicated air boss during the event (example with highlighted text added)

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Example:

JBR 07/295 RZC AIRSPACE UAS WI AN AREA DEFINED AS 2NM RADIUS OF RZC358012 SFC-400FT AGL 2107290001-2206302359. CONTACT UAS AIR BOSS ON 122.9 FOR ADVISORIES.

For un-towered airports with crewed operations

1. Update charts with UA symbol for Miscellaneous Activity Areas from the Aeronautical Chart Users' Guide

Guide

2. Add Caution box describing UA Operations and the general location (i.e, between certain checkpoints, within 5nm of Airport Reference Point, etc;

FAA Response: The FAA will take the above referenced droneport aeronautical charting recommendations into consideration.

- UAS BVLOS and Droneport Integration

Recommendations 1 – 4 are outside the scope of this collection.

Recommendation 5 – droneport definition

FAA Response: Based on the results of this research effort, the FAA may develop a formal definition for a droneport. As stated earlier in this response, the FAA will take the proposed droneport definitions into consideration.