FAA ATO

Low Altitude Authorization and Notification Capability (LAANC)

Phase 1 USS Operating Rules

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Version 1.2

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Revision History

Version	Description	Date
1.0	First complete release.	6/16/2017
1.1	Major update based on internal and external review.	9/18/2017
1.2	Update per prototype evaluation feedback.	2/26/2018

Contents

1 Introduction

1.1 Background

The FAA challenge is to foster equitable airspace access while ensuring critical air traffic control (ATC) technical and safety requirements are met for operations in the National Airspace System (NAS). In addition, the FAA seeks to foster a competitive environment for providers of UAS and related services. With the fast pace of sUAS operators entering the market, automation is critical to support the growing demands for safe and efficient NAS operations.

As the FAA and industry move toward integration of all types of UAS into the NAS, two rules have been introduced governing the requirements for small UAS (sUAS), defined as UAS that weigh less than 55 pounds: 14 CFR Part 107 and Section 336 of the FAA Modernization and Reform Act (P.L. 112-95), which the FAA subsequently codified under 14 CFR Part 101 (Subsection E).

LAANC was developed to provide Part 107 and Part 101E sUAS operators an automated, streamlined, and efficient solution to either receive airspace authorization or provide notification to ATC. LAANC provides near-real-time processing of airspace authorizations including automatic approval of requests that are below approved altitudes in controlled airspace. This new capability uses a data exchange framework with UAS Service Suppliers (USS) to provide quick access to UAS operators. This ease of access is expected to increase and encourage rule compliance. From an Air Traffic Control (ATC) perspective, the development of sUAS LAANC enables safe and efficient flight services of sUAS in the NAS.

1.2 Purpose

This document identifies operating rules for non-government organizations that participate in LAANC as UAS Service Suppliers (USSs). USSs enter into an agreement with the FAA to act as an intermediary between UAS operators (e.g. pilots) and the FAA's LAANC system interfaces. The FAA provides the ability to incorporate LAANC access into their service offerings, and USSs provide operator access and validation of operational submissions (notifications and authorizations). LAANC supports innovative USS business models beyond intermediary services to individual operators, provided that the USS is managing Part 107 authorizations and/or Part 101E notifications.

1.3 Scope

The scope of this document encompasses Phase 1 of LAANC. LAANC Phase 1 is an initial deployed set of capabilities including:

- submission of Part 101E notifications [*see special note in Section 3.4*],
- support for automatically approved Part 107 authorizations using altitude maps established by the FAA around airport facilities,

- mechanism for “further coordination” of Part 107 authorizations that cannot be approved automatically, and
- providing sUAS operations information to ATC/ATM personnel.

Part 107 waivers are not within the scope of LAANC Phase 1.

Following Phase 1, the FAA plans to implement subsequent LAANC phases with various additional features and capabilities. Some future capabilities are noted in context, but for the most part, such future capabilities are not included in this document.

The focus of this document is USS operating rules. Other aspects of LAANC are generally not included, for example the technical details of the interface between USSs and the FAA, and the design of FAA LAANC systems.

This document follows the convention of referring to the party conducting the sUAS flight operation as the “operator”. As appropriate, this translates to equivalent terms such as “sUAS pilot” or “remote pilot in command”. Exceptions to this convention may be made in cases where there is a direct link to regulatory language.

2 Referenced Sources

“Low Altitude Authorization and Notification Capability (LAANC) Concept of Operations”, Version 1.1, 12 May 2017.

“USS-FAA Authorizations and Notifications Interface Control Document” (see latest version).

14 CFR Part 101 Subpart E, “Special Rule for Model Aircraft”.

14 CFR Part 107, “Small Unmanned Aircraft Systems”.

14 CFR Part 99.7, “Special Security Instructions”.

FAA Form 7711-1, “UAS COA”.

3 LAANC USS Operating Rules

This section documents the operating rules that each USS is required to follow to partner with the FAA in LAANC. The rules identified here only minimally define USS behavior. Further processes, features, and capabilities are up to each USS to determine as they develop their unique service offerings. Rules are identified in brackets with a letter appended to the document section number, for example [1.2.3a], [1.2.3b], etc. Restatements and clarifications of rules are not given a new identifier.

There are several types of sUAS operations that USSs may handle as a participant in LAANC. It is essential that USSs accurately understand what operations are in compliance (without a waiver) with regulatory constraints, taking into consideration time of day, location, and maximum altitude. Potential Part 101E operations may or may not require notification, and some may warrant special safety warnings. Potential Part 107 operations fall into three categories: (1) allowed by Part 107 without authorization, (2) require authorization but can be automatically approved (e.g. based on UAS Facility Maps – UASFMs), or (3) require authorization through manual processes ("further coordination"). The operating rules defined here are designed around these LAANC operation types.

3.1 Operator Access to LAANC

The USS must [3.1a] manage Part 107 authorizations and/or Part 101E notifications on behalf of operators. Operators must [3.1b] be managed using individual accounts and reasonably secure identification mechanisms (for example, usernames and passwords). Available LAANC-related records of interactions with operators must [3.1c] be made available to the FAA for review on request.

The USS must [3.1d] make the following statement available to operators in a manner appropriate to their application designs: "[USS name] is a provider of UAS services within the FAA's Low-Altitude Authorization and Notification Capability (LAANC). LAANC may be used to satisfy compliance with ~~ATC notification (14 CFR Part 101E) or~~ ATC authorization (14 CFR Part 107). Information provided here is based on real-time and available projected information on airspace status and airport-specific maps, and that information is subject to change. Planning tools should be checked prior to flight for any possible changes that could impact the operation." *Note: omit struck words above until LAANC supports 101E operations; see special note in Section 3.4.*

The USS must [3.1e] notify operators that the FAA has issued a privacy statement regarding information collected within LAANC, which can be found at https://www.faa.gov/uas/programs_partnerships/uas_data_exchange/privacy_statement/.

Note that, in keeping with 14 CFR Part 107.35, each LAANC authorization corresponds to a single operator controlling at most one aircraft at a time. Authorization of multiple aircraft operated by a single operator (e.g. "swarms") is not supported by LAANC at this time. The USS must not [3.1f] contradict this in its communication to operators.

3.2 USS Access to FAA Systems and Information

3.2.1 Access to LAANC-AP

LAANC-AP (Automation Platform) refers to the primary FAA system portion of LAANC. The USS must [3.2.1a] conform to the "USS-FAA Authorizations and Notifications Interface Control Document" (ICD). The ICD includes details on connecting to the FAA's LAANC-AP system via the internet. The ICD is provided USSs as part of the LAANC onboarding process.

3.2.2 Authoritative Sources of Basic Geospatial Information

UAS Facility Maps (UASFMs) must [3.2.2a] be obtained from http://uas.faa.opendata.arcgis.com as the authoritative source. See Section 3.3 for additional operating rules associated with UASFMs.

In order to comply with regulations, operators and USSs need to access basic airspace classification and airport location information. USSs must [3.2.2b] use an FAA-approved source for airspace boundaries. Examples include published Sectional Charts, the FAA ArcGIS system (see http://ais.faa.opendata.arcgis.com, "Airspace" category, "Class Airspace" dataset), and https://www.faa.gov/air_traffic/flight_info/aeronav/Aero_Data/ ("28 Day NASR Subscription"). For LAANC purposes, airport identification and location must [3.2.2c] be obtained from http://ais.faa.opendata.arcgis.com, "Airports" category, "Airports" dataset as the authoritative source.

3.2.3 Authoritative Sources of Flight Restrictions

Operators are required to comply with applicable restrictions published by the FAA and other airspace authorities. On behalf of operators, USSs are expected to likewise check for applicable restrictions to inform operators and prevent unsafe, unauthorized flights.

Notices to Airmen (NOTAMs), including Temporary Flight Restrictions (TFRs), convey many relevant sUAS restrictions. NOTAMs and TFRs are available through a number of channels. USSs must [3.2.3a] use or refer to an approved FAA source for NOTAMs. An example such source is https://notams.aim.faa.gov/notamSearch/. (Note, for example, as of this writing, NOTAM FDC 7/7282.)

National Security UAS Flight Restrictions (NSUFRs) relate to the Department of Defense and must [3.2.3b] be obtained from http://uas.faa.opendata.arcgis.com as the authoritative source.

Special Use Airspaces (SUAs), including "Restricted" and "Prohibited" types, may also apply to sUAS operations. SUAs are shown on Sectional Charts. USSs must [3.2.3c] use or refer to an FAA-approved source for SUAs. One such source is the FAA ArcGIS system (see http://ais.faa.opendata.arcgis.com, "Airspace" category, "U.S. Special Use Airspace" dataset).

3.3 UAS Facility Maps (UASFMs)

UASFMs play a vital role in the LAANC concept of operations. UASFMs identify threshold altitudes at or below which Air Traffic Management has decided that the FAA can automatically authorize Part 107 operations (provided they otherwise comply with regulations). That is, the FAA can authorize operations within the UASFMs automatically, requiring far less time and human effort than manually processed authorizations.

3.3.1 UASFM Updates

The USS must [3.3.1a] apply the appropriate UASFM(s) to each operation proposed or submitted by an operator. The USS must [3.3.1b] utilize the most current, valid map information that is applicable to the operation.

Base map UASFM data will change on a predetermined update cycle similar to other FAA chart publications. Base map data includes the definition of UASFM grid cells. UASFM values (such as altitude limits) may change on a daily timeframe, especially to expedite map corrections or time-sensitive adjustments. USSs must [3.3.1c] update any local copies of UASFMs on a cycle not longer than 24 hours.

3.3.2 UASFM and Airspace Boundaries

UASFM grid cell boundaries are rectangular, and airspace boundaries are generally curved. If a UASFM extends beyond a controlled airspace boundary, the airspace boundary has regulatory precedence. For example, in the area outside a controlled airspace boundary but covered by a UASFM grid, the UASFM threshold does not apply (either for Part 107 authorizations or warnings issued concerning Part 101E operations – see Section 3.4.2).

In graphically presenting limits to operators, USSs may round off or clip UASFMs to match airspace boundaries where this accurately represents the precedence described above. USSs may also aggregate adjacent grids having the same altitude threshold, and/or annotate grids (for example, with authorizing facility association) as deemed effective in their graphical interface designs.

3.3.3 Geographically Adjacent Operations

In some cases, USSs and/or operators may wish to or need to geographically subdivide operations into separate, adjacent submissions. Where these operational subdivisions coincide with UASFM grid boundaries, geometric uncertainties can arise. A tolerance of up to 10 feet may be applied to unambiguously define adjacent operating volumes such that each clearly falls within the intended grid boundaries.

3.3.4 Operations that Cross FAA Authorization Boundaries

FAA authorization boundaries for the purposes of LAANC are expressed by the airspace boundaries and UASFM grids. All airports that are participating in LAANC have UASFM grids for which they are listed as the LAANC ATC authority. As the grids are geodetically rectangular, some grids cross boundaries and list two (or more) authorities.

USSs must [3.3.4a] subdivide operations as necessary so that each authorization has a single authority. For example, if a proposed operation crosses the airspace boundary between Airport A and Airport B, the USS must subdivide the operation along the airspace boundary and make separate LAANC submissions to each. An example is shown in Figure 1.

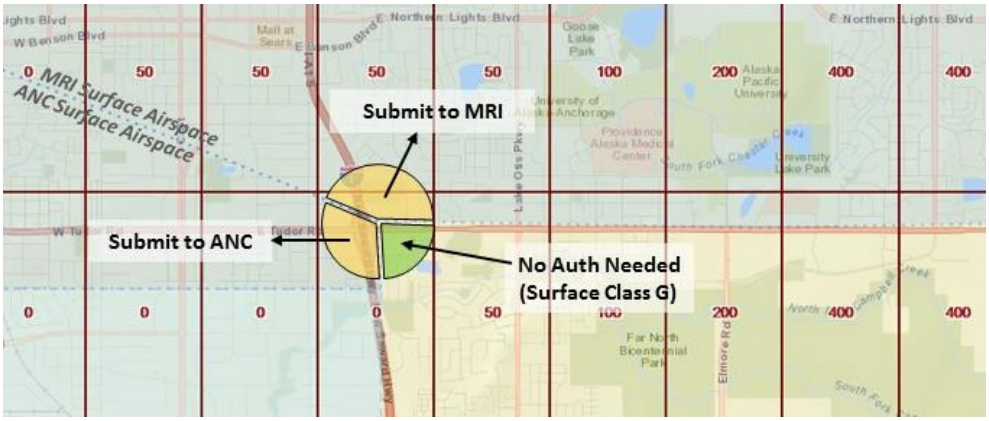

Figure 1: Example Operation Crossing Authorization Boundaries

In this example, the desired operation (whole circle) needs to be subdivided into three regions corresponding to the different airspace authorities defined by the surface airspace boundaries. The auto-approval maximum altitudes (red numbers) indicate that most of the operation must be submitted under Further Coordination (0' equates to no auto-approval). The Class G region needs no authorization and therefore no LAANC submission. (Note, however, that most of Part 107 remains in effect in Class G even though 107.41 does not.) The MRI region of the operation could be further subdivided along the grid boundary to auto-approve the uppermost portion (up to 50').

If an airspace identifies an authority that does not correlate to UASFM grids covering the operation, the USS must not [3.3.4b] submit that portion of the operation to LAANC. The USS must not [3.3.4c] make LAANC submissions to authorities that do not have a UASFM covering the operation in question.

For example, if a proposed operation is partly in Airport A's airspace and partly in DOD Facility B's airspace, it must be subdivided accordingly. If Airport A has a corresponding UASFM and DOD Facility B does not, only the portion in Airport A's airspace may be submitted to LAANC. The portion in DOD Facility B's airspace cannot be authorized via LAANC.

3.3.5 "LAANC Ready" Flag

In more recent UASFM format versions, data associated with each UASFM grid includes a "LAANC Ready" flag. If a USS is using a format that includes this flag, the USS must not [3.3.5a] submit any operations that touch a grid with a "LAANC Ready" flag of *false*.

3.4 Part 101E Notifications

***** Special Note on Part 101E Notifications *****

At this time, LAANC does not include Part 101E Notifications. This functionality will be activated when all processes are complete concerning air traffic procedures and compliance with the Paperwork Reduction Act. Therefore, this Section 3.4 should be disregarded until this Special Note is removed in a future revision of these Operating Rules. At such time, we expect LAANC Part 101E processes to commence as described below.

This section applies to USSs that include Part 101E notifications in their service offerings. USSs that do not handle Part 101E notifications may disregard this section.

3.4.1 Compliance Checks

Per Part 101E, the 5 statute mile radius around airports (using the authoritative set of airports provided by the FAA) is a determining factor in notification requirements. The USS must [3.4.1a] identify planned operations that require notification.

Part 101E operations are also subject to a variety of flight restrictions. In addition to checking against 14 CFR 101, the USS must [3.4.1b] assist the operator in complying with: Special Use Airspaces (SUAs), NOTAMs (especially TFRs), and National Security UAS Flight Restrictions (NSUFRs). The USS may advise the operator to check applicable FAA sources. However, the USS must [3.4.1c] explicitly check for potential NSUFR, stadium (NOTAM FDC 7/4319), and DC area (NOTAMs ZDC 6/7196 and ZDC 6/7201, and referenced 14 CFR 93.335) transgressions. The USS is not *required* to block submissions (in case operator has the proper authorization in addition to FAA authorization), but the USS *may* block any submissions at its discretion per its service model. The USS should inform the operator appropriately and assist in the resolution of conflicts (where possible) between flight objectives and applicable restrictions.

3.4.2 Hazardous Operations Warning

UASFM thresholds represent an important indication by ATC that the airspace above the threshold may be actively used by manned aircraft, which is relevant to Part 101E operations as well as Part 107 operations. The risk of a manned-unmanned aircraft collision is extraordinarily important among sUAS operational considerations. Prior to submitting a Part 101E notification that exceeds a UASFM altitude threshold and is within controlled airspace, the USS must [3.4.2a] provide the following warning to the operator (in a manner consistent with the design of the application): "Warning: Operating

a UAS in this area may endanger the National Airspace System. Operators who endanger the safety of the NAS may be subject to civil penalties of up to $32,666." The USS must [3.4.2b] prompt the operator for acknowledgement and store receipt of this acknowledgement prior to submitting the notification.

Note that this warning may be required in some cases where notification is not required (outside 5 statute miles from an airport, but above a UASFM and within controlled airspace). In such cases, the warning must be provided as stated above even if no notification is required or sent.

3.4.3 Timeliness

In general, USSs may submit Part 101E notifications up to the start time of the operation. USSs must not [3.4.3a] submit Part 101E notifications via LAANC more than 90 days in advance of the operation described. Note that the FAA prefers that operations be submitted with as much lead time as practical.

There is one exception to the above: in order to allow sufficient time for ATC situational awareness, USSs must not [3.4.3b] submit Part 101E notifications via LAANC for operations that are above a UASFM and start in less than 12 hours. In such cases, USSs should work with operators to address this constraint (reduce altitude, move or delay operation, etc.). Non-LAANC notification methods also remain available to operators.

3.4.4 Submission via LAANC

Part 101E notifications that comply with regulations and the applicable operating rules expressed herein may be submitted by the USS via LAANC. Notification must not [3.4.4a] be considered complete until an acknowledging digital response is received from the FAA. See Section 3.9 concerning system outages and contingencies.

3.4.5 Notification Response to Operator

When a notification is made via LAANC, the USS must [3.4.5a] remind the operator (in a manner appropriate to their application design) of their legal responsibilities including: eligibility (e.g. within the programming of a nationwide community-based organization), maintaining visual line of sight, and not interfering with and giving way to manned aircraft.

3.5 Part 107 Automatically Approved Authorizations

This section applies to USSs that include Part 107 automatically approved authorizations in their service offerings. USSs that do not handle Part 107 automatically approved authorizations may disregard this section.

3.5.1 Compliance Checks

Per Part 107.41, controlled airspace boundaries (Classes B, C, D, and Surface E) are a determining factor in authorization requirements. To be eligible for automatic approval, the planned operation must fall entirely at or below UASFM maximum altitudes. The USS must [3.5.1a] identify planned operations that require authorization and are eligible for automatic approval.

Part 107 operations are also subject to a variety of flight restrictions. USSs must [3.5.1b] check against operations exceeding 400 feet (Part 107.51) or being conducted at night (Part 107.29). The USS must [3.5.1c] also assist the operator in complying with: Special Use Airspaces (SUAs), NOTAMs (especially TFRs), and National Security UAS Flight Restrictions (NSUFRs) – see Part 107.45 and 107.47. The USS may advise the operator to check applicable FAA sources. However, the USS must [3.5.1d] explicitly check for potential NSUFR, stadium (NOTAM FDC 7/4319), and DC area (NOTAMs ZDC 6/7196 and ZDC 6/7201, and referenced 14 CFR 93.335) transgressions. The USS is not *required* to block submissions (in case operator has the proper authorization in addition to FAA authorization), but the USS *may* block any submissions at its discretion per its service model to operators. The USS should inform the operator appropriately and assist in the resolution of conflicts (where possible) between flight objectives and applicable restrictions. Note that Further Coordination (see Section 3.6) is another method of Part 107 authorization within LAANC.

Note: Adjacent UASFM grid cells may have different thresholds, and operators may wish to take advantage of this by planning to fly to a higher threshold in one grid than the other. In Phase 1 LAANC, each submission can only have a single boundary with a single maximum altitude. Planned operations of this type with multiple maximum altitudes must be submitted as two (or more, as necessary) adjacent planned operations.

Note: Future LAANC development may include specific rules for coordinated operations of multiple aircraft in the same area. For Phase 1, each UAS operation should be submitted separately with overlapping operational volumes.

3.5.2 Class E Surface Area Weather Ceiling Caveat

Due to the relatively lower minimums for VFR traffic in Class E airspace, additional situational risks limit the validity of automatically approved Part 107 authorizations provided via LAANC. Specifically, automatic approvals obtained via LAANC are not valid in Class E Surface Area airspace when the weather ceiling is less than 1,000 feet. (This is a situational limitation of the authorization which cannot, in general, be known in advance of the actual operation.) The USS must [3.5.2a] inform operators of this limitation when it applies to their planned operation. The USS should also assist the operator to access relevant, reliable weather information.

3.5.3 Timeliness

USSs may submit Part 107 automatically approved authorizations up to the start time of the operation. The USS must not [3.5.3a] submit automatically approved authorizations more than 90 days in advance. Note that the FAA prefers that operations be submitted with as much lead time as practical.

3.5.4 Submission via LAANC

Part 107 automatically approved authorizations that comply with regulations and the applicable operating rules expressed herein may be submitted by the USS via LAANC. The authorization process must not [3.5.4a] be considered complete until a confirming digital response is received from the FAA.

The USS must ensure that each Part 107 submission corresponds to a single facility authority (airport) as indicated by UASFM grids and airspace boundaries. If necessary, operations must be subdivided on surface airspace boundaries. See Section 3.3.4.

The USS must not submit to sites that are not "LAANC Ready". See Section 3.3.5.

See Section 3.9 concerning system outages and contingencies.

3.5.5 Text of Authorization

When an automatically approved authorization is provided, the USS must [3.5.5a] generate and store the following text and make it available to the operator (in a manner appropriate to their application design): "In accordance with Title 14 CFR Part 107.41, your operation is authorized within the designated airspace and timeframe constraints. Altitude limits are absolute values above ground level which shall not be added to the height of any structures. This Authorization is subject to cancellation at any time upon notice by the FAA Administrator or his/her authorized representative. This Authorization does not constitute a waiver of any State law or local ordinance. [*Name of remote pilot*] is the person designated as responsible for the overall safety of UAS operations under this Authorization. During UAS operations for on-site communication/recall, [*name of remote pilot*] shall be continuously available for direct contact at [*contact phone number*] by ATC or designated representative. Remote pilots are responsible to check the airspace they are operating in and comply with all restrictions that may be present in accordance with 14 CFR 107.45 and 107.49 (a)(2), such as restricted and Prohibited Airspace, Temporary Flight Restrictions, etc. Operations are not authorized in Class E airspace when there is a weather ceiling less than 1,000 feet AGL. If the UAS loses communications or loses its GPS signal, it must return to a predetermined location within the operating area and land. The pilot in command must abort the flight in the event of unpredicted obstacles or emergencies."

The USS must [3.5.5b] make the 9-character operation reference code available to the operator. The reference code is not case-sensitive and all letters should be capitalized.

The reference code is useful in the event that ATC needs to communicate directly with the operator.

3.5.6 Previously Authorized Becomes Invalid

When changes occur that could impact the automatically approved status of prior submissions (e.g. change to UASFM, establishment of TFR, etc.), the USS must [3.5.6a] review all prior submissions that have not occurred yet and could be affected. If the information associated with a previously submitted operation changes, the USS must [3.5.6b] update the submission using the appropriate interface mechanism (see ICD). For previously automatically approved authorization submissions that no longer comply, the USS must [3.5.6c] inform the operator that the previous authorization is no longer valid and direct the operator toward canceling the operation (see Section 3.7.1). Cancellation informs ATC that the operator is aware of the invalid authorization and no longer intends to fly. Note that such an operation could generally be resubmitted under ATC Further Coordination.

3.6 ATC Further Coordination

This section applies to USSs that include Part 107 Further Coordination authorizations in their service offerings. USSs that do not handle Part 107 Further Coordination authorizations may disregard this section.

3.6.1 Compliance Checks

Per Part 107.41, controlled airspace boundaries (Classes B, C, D, and Surface E) are a determining factor in authorization requirements. LAANC Further Coordination is designed to handle authorization requests for operations that exceed one or more UASFM maximum altitudes. The USS must [3.6.1a] identify operations that require authorization and that are eligible for Further Coordination.

Part 107 operations are also subject to a variety of flight restrictions. USSs must [3.6.1b] check against operations exceeding 400 feet (Part 107.51) or being conducted at night (Part 107.29). The USS must [3.6.1c] also assist the operator in complying with: Special Use Airspaces (SUAs), NOTAMs (especially TFRs), and National Security UAS Flight Restrictions (NSUFRs) – see Part 107.45 and 107.47. The USS may advise the operator to check applicable FAA sources. However, the USS must [3.6.1d] explicitly check for potential NSUFR, stadium (NOTAM FDC 7/4319), and DC area (NOTAMs ZDC 6/7196 and ZDC 6/7201, and referenced 14 CFR 93.335) transgressions. The USS is not *required* to block submissions (in case operator has the proper authorization in addition to FAA authorization), but the USS *may* block any submissions at its discretion per its service model. The USS should inform the operator appropriately and assist in the resolution of conflicts (where possible) between flight objectives and applicable restrictions.

Note that LAANC does not currently process waivers to Part 107 (see 14 CFR Part 107D). Operators can request waivers through non-LAANC mechanisms such as https://www.faa.gov/uas/request_waiver/. USSs should direct operators to non-LAANC mechanisms as appropriate.

3.6.2 Class E Surface Area Weather Ceiling Caveat

As with automatically approved authorizations (see Section 3.5.2), Further Coordination authorizations obtained via LAANC are not valid in Class E Surface Area airspace when the weather ceiling is less than 1,000 feet. The USS must [3.6.2a] inform operators of this limitation when it applies to their planned operation. The USS should also assist the operator to access relevant, reliable weather information.

3.6.3 Timeliness

The USS must [3.6.3a] inform operators that Further Coordination is a manual process with commensurate timelines. (Further Coordination targets less than 30 days but may take up to 90 days for the FAA to produce an authorization or denial – or may expire without resolution.)

The USS must not [3.6.3b] submit Part 107 Further Coordination more than 90 days in advance. Note that the FAA prefers that operations be submitted with as much lead time as practical.

The USS must [3.6.3c] automatically cancel requests for Further Coordination 24 hours before the proposed start time if no definitive response has been received from the FAA. Cancellation must be indicated by the corresponding message to the FAA (see Section 3.7.1). *Note: unlike other cancellations, this automatic request cancellation is initiated by the USS rather than the operator.*

3.6.4 Submission via LAANC

Part 107 Further Coordination requests that comply with regulations and the applicable operating rules expressed herein may be submitted by the USS via LAANC. The request must not [3.6.4a] be considered authorized or denied until a definitive response has been received from the FAA as described in the ICD.

The USS must ensure that each Part 107 submission corresponds to a single facility authority (airport) as indicated by UASFM grids and airspace boundaries. If necessary, operations must be subdivided on surface airspace boundaries. See Section 3.3.4.

The USS must not submit to sites that are not "LAANC Ready". See Section 3.3.5.

See Section 3.9 concerning system outages and contingencies.

3.6.5 Advising Operators on Pending Requests

After submission, in a manner suitable to the design of their application, the USS must [3.6.5a] inform the operator that the request is pending and discourage following up with ATC by phone as this may result in their request being rejected.

3.6.6 Text of Authorization

When a Further Coordination request is approved/authorized, the USS must [3.6.6a] generate and store the following text and make it available to the operator (in a manner appropriate to their application design): "In accordance with Title 14 CFR Part 107.41, your operation is authorized within the designated airspace and timeframe constraints. Altitude limits are absolute values above ground level which shall not be added to the height of any structures. This Authorization is subject to cancellation at any time upon notice by the FAA Administrator or his/her authorized representative. This Authorization does not constitute a waiver of any State law or local ordinance. [*Name of remote pilot*] is the person designated as responsible for the overall safety of UAS operations under this Authorization. During UAS operations for on-site communication/recall, [*name of remote pilot*] shall be continuously available for direct contact at [*contact phone number*] by ATC or designated representative. Remote pilots are responsible to check the airspace they are operating in and comply with all restrictions that may be present in accordance with 14 CFR 107.45 and 107.49 (a)(2), such as Restricted and Prohibited Airspace, Temporary Flight Restrictions, etc. Operations are not authorized in Class E airspace when there is a weather ceiling less than 1,000 feet AGL. If the UAS loses communications or loses its GPS signal, it must return to a predetermined location within the operating area and land. The pilot in command must abort the flight in the event of unpredicted obstacles or emergencies."

The USS must [3.6.6b] make the 9-character operation reference code available to the operator. The reference code is not case-sensitive and all letters should be capitalized. The reference code is useful in the event that ATC needs to communicate directly with the operator.

3.7 Cancellations, Changes, Rescinded Authorizations

3.7.1 Operator Cancellations

The USS must [3.7.1a] incorporate the capability for any previously submitted requests, authorizations, or notifications to be cancelled by the operator, indicating that the operation is no longer planned. This cancellation mechanism is also an important confirmation to ATC that a pilot no longer intends to fly under an invalid authorization (see Section 3.5.6).

3.7.2 Operator Changes

The USS must [3.7.2a] offer the capability to modify the details of a planned operation as long as such change does not require ATC Further Coordination, such as extending

automatically approved authorizations. The USS must [3.7.2b] submit such changes to the FAA using the appropriate interface mechanism (see ICD).

3.7.3 ATC-Rescinded Authorizations

FAA personnel may manually rescind any previously approved Part 107 authorization. Messages indicating such rescinded authorizations will be initiated by the FAA and communicated to the USS via mechanisms described in the ICD. The USS must [3.7.3a] either be set up to receive such messages asynchronously or check for such messages on a cycle not longer than 30 minutes. Once the message is received, the USS must [3.7.3b] initiate resolution with the operator within 30 minutes by informing the operator and assisting in canceling the operation from the operator side. The USS is not responsible for delays caused by a lack of response from the operator. ATC cannot be sure that the operator is aware of a rescinded authorization and no longer plans to fly unless there is confirmation from the operator side in the form of a cancellation (see Section 3.7.1).

Note that ATC may opt to call the operator directly, whether or not they rescind an authorization through LAANC. Should a difference arise, any authorization information provided verbally by ATC supersedes prior authorization information established via LAANC. The USS is not responsible to be aware of ATC-operator verbal communication.

3.8 Reasonable Filtering

The USS must [3.8a] make reasonable checks to block spurious submissions that do not comply with Part 107 and Part 101E. Attempts should also be made to block illegitimate submissions (e.g. excessive or malicious).

For example, a reasonable limitation on swarms (and excessive submissions) would be to block more than three temporally overlapping submissions from the same operator unless there is a valid reason (such as a subdivided operation, see Section 3.5.1). A reasonable limitation on operations beyond line of sight (see Part 107.25) is to block areas of operation larger in maximum linear extent than 10 miles unless justified. In addition to more specific checks on local sunrise and sunset, a reasonable absolute limit on operation duration is 16 hours (per daylight restriction in Part 107.29) unless justified (as in certain times of the year in Alaska).

Note: LAANC development beyond Phase 1 may include more specific rules concerning reasonable filtering, taking into consideration what is found to be necessary and effective in field operations.

3.9 Contingency Operations

In the unlikely event that the FAA's LAANC system is down or inaccessible for any reason, authorization and/or notification submissions must [3.9a] be considered temporarily incomplete. Authorizations and notifications cannot be considered successfully submitted until their receipt is indicated by a positive acknowledgement

from FAA systems. This approach ensures that the FAA has the opportunity to check that submissions are valid and correct before they are used operationally, as well as ensuring ATC situational awareness.

However, during such outages, the USS can continue planning functions with operators pending final completion once the FAA's LAANC system is available. Many authorization and notification situations provide ample time for later resubmission prior to the start time of the operation. For example, given a desired Part 107 automatically approved authorization that starts in 24 hours, there are many opportunities for digital resubmission before the flight commences. The USS could inform the operator that the FAA's LAANC system interface is temporarily unavailable and they will be notified when the process is complete (or should check back before flying).

In the event of protracted unavailability of the FAA's LAANC system, USSs may inform operators of other compliant, legacy mechanisms (such as acquiring Part 107 authorizations via https://www.faa.gov/uas/request_waiver/).

Attachment A: USS-FAA High-Level Exchange Model

The reference material below is intended to assist stakeholders in understanding, planning, and scoping LAANC-related systems and services. Information items listed are high-level and not technically exhaustive (additional data may be required). This material is intended to be synchronized with the relevant ICD, but in any cases of perceived or actual conflict, the ICD has precedence.

Part 101E Notification (USS → FAA)
▪ Pilot Name (first and last) ▪ Pilot Phone Number (during operation) ▪ Start Date/Time ▪ Duration ▪ Maximum Altitude ▪ Boundary Geometry (polygon or point/radius) ▪ Airport Being Notified

Part 107 Auto-Approved Authorization (USS → FAA)
▪ Pilot Name (first and last) ▪ Pilot Phone Number (during operation) ▪ Start Date/Time ▪ Duration ▪ Maximum Altitude ▪ Boundary Geometry (polygon or point/radius) ▪ Authorizing Airport ▪ UASFM Grids Touched (IDs and last edit dates) ▪ Airspace Classes Touched

Part 107 Further Coordination Request (USS → FAA)
▪ Pilot Name (first and last) ▪ Pilot Phone Number (during operation) ▪ Start Date/Time ▪ Duration ▪ Maximum Altitude ▪ Boundary Geometry (polygon or point/radius) ▪ Authorizing Airport ▪ Airspace Classes Touched ▪ Safety Justification (text)

Part 107 Further Coordination Response (FAA → USS)
▪ Operation Reference Code ▪ Approved or Denied

Part 107 Operation Cancelled (USS → FAA)
▪ Operation Reference Code

Part 107 Authorization Rescinded (FAA → USS)
▪ Operation Reference Code