NAS Infrastructure - NextGen Operational Improvement (OI) Qualification of Third-Party Weather Providers

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FAA Aviation Weather Program, Policy and Requirements Branch, ANG C-64

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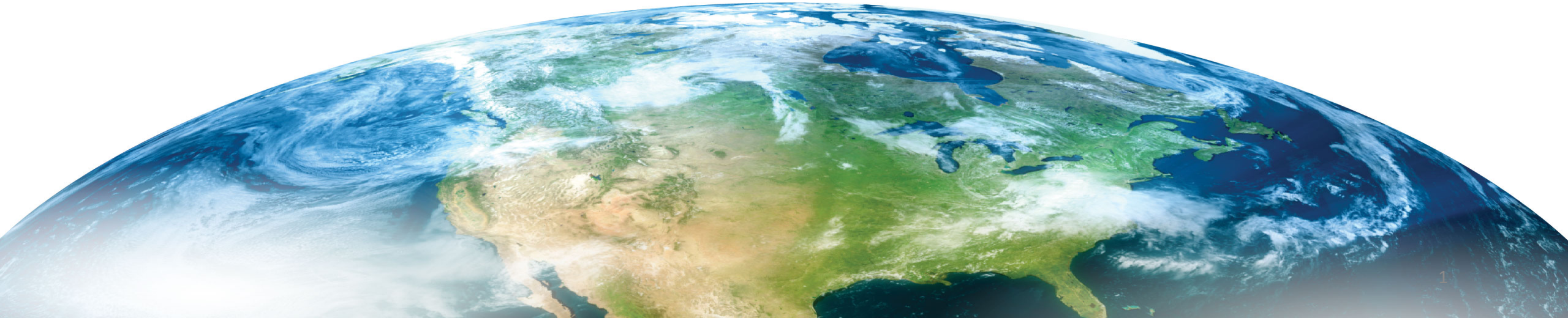

Overview

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Background

FAA NextGen Operational Improvements (OI's) are Supported by Budget Portfolios

- Support for the future systems architecture of the air traffic control system requires **establishing performance goals**
- These **goals are defined by the Operational Improvements** that describe the specific operational performance enhancements to be realized through the NextGen investments.
- **An OI to Qualify Third Party Weather Providers (3PWP) is included in the FY22 National Airspace System (NAS) Segment Implementation Plan** — part of the FAA Enterprise Architecture
  - *(What) New role and responsibility of the FAA* to Qualify Weather Data and Weather Information Providers
  - *(How) Establishment of FAA processes* to Qualify the Third Party Weather Providers which will **assist new entrants, traditional and non-traditional aviation users with Flight Planning, Flight Operations, and Regulatory Dispatch**

FAA's NextGen Unmanned Aircraft System (UAS) UAS Traffic Management (UTM) Concept of Operations (ConOps) V2.0 highlights a model that heavily leverages utilization of third-party entities to support the FAA and the Operator in their respective roles and responsibilities.

Industry will be developing and deploying weather infrastructure and data services. But, as stated in Section 2.3.2 of the NextGen UAS UTM ConOps V2.0, **"…services must be qualified by the FAA against a specified set of performance rules".**

Project Overview

The UAS Operational Improvement (OI) Project started in March 2022 and is intended to be a multi-year effort

This OI is planned to extend from Fiscal Year (FY) 2022 through 2029, with the Operational Capability beginning in 2029 and extending past 2030.

This effort is broken into five main project phases, with the addition of an operational phase at the end.

- Phase 1 – Initial Planning
- Phase 2 – Research Planning
- Phase 3 – Process Development
- Phase 4 – Execution
- Phase 5 – Final Implementation
- Operational Capability

Note: It is envisioned that as this effort progresses, there may be some iteration(s) within each phase and/or reassessing previous phases as needed.

What we have accomplished to date

Five main project phases:

Phase 1 – Initial Planning

Phase 2 – Research Planning

Phase 3 – Process Development

Phase 4 – Execution

Phase 5 – Final Implementation

Operational Capability

The documents that are developed as part of this ***initial effort*** are

- **Project Plan,**
- **Qualifications Report,**
- **Technical Standards Report,**
- **Technical Providers Report, and**
- **Roadmap Report**

This **Third-Party Qualified Weather Provider Operational Improvement effort** will produce several documents that will be used to **frame the effort** as policies and processes are identified.

What we have accomplished to date

First Year Effort (FY22-FY23)

Phase 1: Initial Planning

Project Plan - Provides a recommended plan for **what is needed to implement** the Qualified Weather OI **within the FAA Enterprise Architecture (EA)** and **FAA processes** to qualify 3PWPs in support of UAS introduction into the NAS.

Phase 2: Research Planning

Qualifications Report – Documentation of any **existing and/or previous** models, processes, policies, or procedures that are needed to qualify 3PWP.

Technical Standards Report - Documentation of any **existing or previous weather** information standards for UAS, in the "as-is" or "to-be" state.

Technical Provider Report – Documentation of **existing UAS and aviation weather information providers**. **Identification of gaps in existing UAS 3PWPs** needed to fully integrate existing and future requirements into the NAS.

Roadmap Report – Defines the roadmap that leads to the operational capability – the operational Third-Party Weather Provider Qualification Process

What we have accomplished to date

First Year Effort (FY22-FY23)

We are working with Subject Matter Expects (SME's) and Stakeholders

- FAA Office of Chief Counsel (AGC); AGC-200
- FAA Office of Flight Standards (AFS); AFS-410, AFS-220
- FAA UAS Integration Office (AUS); AUS-400
- ASTM International; ASTM F38 Work Item WK73142

Next Steps

Five main project phases:

Phase 1 – Initial Planning
Phase 2 – Research Planning

First Year Effort (FY22-FY23)

Phase 3 – Process Development

Timeline: FY23-FY25

Phase 4 – Execution

Timeline: FY25 – FY28

Phase 5 – Final Implementation

Timeline: FY28 – FY30

Operational Capability

Timeline: FY29 – FY31

Follow-on work to this *initial first year effort* is anticipated to start in September 2023. **Planning is underway right now.** We are working with SME's and stakeholders to define all of the elements of the Process Development.

Next Steps

Timeline: (FY23-FY25)

Phase 3 – Process Development *(Note: in planning, not approved to date)*

Planned subtasks include:

- Developing the **initial process plan reference document**
- Developing the **weather data standards***
- Developing the **3PWP Application Package***
- Capturing the **New Version of the Roadmap Report**
- Developing **Advisory Circular (AC) on the 3PWP Qualification Process***
- Publishing **Final AC***
- *Draft Version of Operational Capability:* ***Draft Third-Party Weather Qualification Process***

* We plan to continue working with Subject Matter Expects (SME's) and Stakeholders

Future work and moving forward

Five main project phases:

Phase 1 – Initial Planning
Phase 2 – Research Planning

First Year Effort (FY22-FY23)

Phase 3 – Process Development

Timeline: FY23-FY25

Phase 4 – Execution

Timeline: FY25 – FY28

Phase 5 – Final Implementation

Timeline: FY28 – FY30

Operational Capability

Timeline: FY29 – FY31

ANG-C6 will move to an oversight role. Adjustments to the Qualification Process will be made based upon **internal testing** conducted during Phase 3. Then the Qualification Process will be **tested by users** with 3PWP data.

A key feature of Phase 5 will be **education and training** on the 3PWP qualification process. It will also include a **post-operational review and closeout**.

This is the operational life of the capability. The life span of the operational capability is undetermined at this time. This new phase is comprised of **updates to documentation** created during Phases 1-5 and **maintenance of processes and resources**.

Questions