

PASS Article 13 / SME Program Report

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Program Name: NextGen Weather NextGen Weather Processor (NWP)

Program Contact/s:

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Introduction:

The Federal Aviation Administration's (FAA) Next Generation Air Transportation System (NextGen) represents a transformative change in the management and operation of the National Airspace System (NAS). A crucial element within NextGen will be the NextGen Weather Processor (NWP). The role for NWP within NextGen will be to provide weather information, as well as constraint information derived from weather data which enables increased NAS efficiency and safety.

The NWP will establish a weather processing platform that will fuse all pertinent weather data into a consistent set of products that are easily understood by the air traffic controllers and managers and are easily incorporated into automated Air Traffic Management (ATM) models via Common Support Services Weather (CSS-Wx). The NWP weather and weather constraint outputs will be available to be ingested by Air Navigation Service Providers (ANSP), (e.g., traffic flow managers, en route and terminal controllers), automated Decision Support Tools (DSTs), and other members of the aviation community. The NWP will generate output products for user's displays and user's processing systems. NWP products will be produced in standardized formats to the CSS-Wx System. The CSS-Wx System will tailor the products to satisfy requests from subscribing users. NWP will access most of the inputs needed for product generation via the CSS-Wx System.

The NWP will subsume the generation of information provided by these legacy FAA systems and prototypes: WARP, ITWS, CIWS, CoSPA

NWP capabilities will include the following:

- Establish the processing platform that consolidates processing functions including ITWS, WARP, CIWS, and CoSPA
- Provide rapidly updated mosaics of the following convective weather information: storm intensity, echo tops, windshear, surface winter weather and related information for the CONUS+, Alaska, Hawaii, and Guam domains
- Provide rapidly updated, high temporal resolution prediction information for the CONUS+ domain
- Provide information to a wide variety of users. Users will utilize NWP information through their ATC Situation Displays (SDs), Aviation Weather Displays (including web browsers), or through user decision-support tools
- Replace the 0-to-2-hour Convective Weather product functionality provided by the CIWS prototype for the CONUS+ domain with that provided by the 0-to-8-hour CoSPA
- Replace the ITWS product generation functionality and currently-generated products including the ITWS 0-to-1-hour convective product (replaced by improved prediction from CoSPA), terminal winds products, and other ITWS products such as windshear and wind shift estimate
- Perform convective weather translation to weather-related air traffic constraints

The Aviation Weather Display (AWD) will be developed by the Federal Aviation Administration (FAA) Next Generation Air Transportation System (NextGen) Weather Processor (NWP) program. It will display weather and aeronautical information, and will be implemented to use both a dedicated display and a web browser.

AWD will replace legacy weather displays, including Integrated Terminal Weather System (ITWS) Situation Displays (SDs), Weather and Radar Processor (WARP) Briefing Terminals (BTs), Corridor Integrated Weather System (CIWS) SDs, ITWS Website, CIWS Website, and CoSPA Website.

Contractor:

Raytheon

Maintenance:

This system will be maintained by the FAA.

Equipment:

The NWP will have two subsystems, NWP Central and NWP Terminal. The NWP Central node will consist of 2 equipment racks located at the SLC and ATL NEMC. The NWP Terminal node will be composed of one rack of equipment located at TRACONs with ITWS system

Certification:

The NWP Terminal node will replace the legacy ITWS system and will continue the certification requirement.

Key Sites:

SLC and ATL NEMCs; ZLC and ZTL ARTCCs; A80 and S56 TRACONs; ATL, PDK and SLC ATCTs

Current Program Status:

07/18/2017 Key Site Survey:

07/18/2017 ATL NEMC

07/19/2017 ZTL ARTCC

07/20/2017 A80 TRACON

07/21/2017 ATL and PDK ATCTS

07/25/2017 SLC NEMC

07/27/2017 S56 ATCT

07/27/2017 SLC ATCT

05/2019 NWP Key Site SAT testing

03/2020 National Deployment / Installation and SAT testing

Issues Affecting PASS:

The Program Office is working with NASEO and TechOps to determine the final location of the NWP Central node. The current plan is to locate the equipment at the SLC and ATL NEMC facilities. However, the program office has concerns regarding available space and environmental resources.

Program Issues:

There is none at this time.

Identify Support Needs:

There is none at this time.

Other:

Documentation Attached: