



Article 13 Update: NAS Voice Switch

By Emmett Clark, PASS NVS Article 13 Representative

As previously reported, the FAA has been developing a new voice switch for the National Airspace System (NAS). The new voice switch, which is being built by Harris Corp., is called the NAS Voice Switch, or NVS. Currently, the NVS is scheduled to be deployed to 80 sites across the NAS, including all ARTCCs, TRACONS, and large ATCTs.

The NVS is a hybrid system, capable of using the legacy analog/digital communication, and now IP-based communication (cloud technology). The NVS has a new design for the legacy Radio Control Equipment (RCE), which can work in analog or IP mode of communication. The new RCE is currently referred to as the Remote Radio Node (RRN). The RRN equipment has a slightly earlier deployment schedule than the rest of the NVS system, to compensate for the end of the RCE's life cycle. All FAA facilities with voice equipment will receive the new RRN. The RRN was designed to fit in the currently RCE equipment racks, and uses the same cable connections. An intriguing feature of the NVS system is its ability to share assets. Through IP "the cloud," air traffic control facilities can assign communication frequencies from their facility to neighboring facilities. Now, if an air traffic control facility suffers physical damage to its local equipment, service can be restored in minutes by assigning control to a neighboring facility. There will not be an extended outage due to the waiting on replacement equipment, nor the time it takes for installation.

Most recently, the NVS Program held its second Early User Involvement Event (EUIE) in January. The second EUIE was particularly interesting because the focus was on testing and troubleshooting the system (the first EUIE was focused on workstation maintenance controls and system monitoring). In addition to myself as the NVS Article 13 representative and Richard Lucero as the NVS Human Factors Article 13 representative, PASS members of the NVS User Team included John Grabitz, Ed Hanlon, Brian Ocana and Fernando Saldana. In addition, and in an effort to increase participation, I asked for members from the Seattle key site, Jeff Anthony and Kerry Mayfield, to join the EUIE. Ray LaRoche also attended the EUIE as a Program Management Office (PMO) subject matter expert.

As a team, we were put through scenarios ranging from end-to-end testing to in-house communication path tracing. Additionally, user team members had time to "go off script" and interrogate the system in other ways to find errors and areas of concern. Just like in the first EUIE, Harris engineers and software specialists were on hand to answer the in-depth questions from the PASS user team. The user team was shadowed by both FAA and Harris observers who recorded the comments, system errors, and issues found by them. Following the EUIE, Lucero and I will work with the PMO Human Factors personnel and Harris to prioritize and categorize the recorded comments. Although the second EUIE was a joint effort success between the PMO and PASS, it will be several program builds before the findings from the EUIEs are implemented.

The NVS has the potential to be a great voice switch. PASS and the PMO have been working quite



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well together. At this point in the program, the PMO seeks PASS for input and comments in order to hold Harris to contract requirements. However, there are requirements that Harris cannot meet, and those may require waivers. Jointly, the PMO and PASS ensure that the waiver granted does not result in a loss of any capabilities that maintenance technicians have today.