UVSI 2012 Yearbook Article

Title: NASA's UAS Related Activities

NASA continues to operate all sizes of UAS in all classes of airspace both domestically and internationally. Missions range from highly complex operations in coordination with piloted aircraft, ground, and space systems in support of science objectives to single aircraft operations in support of aeronautics research. One such example is a scaled commercial transport aircraft being used to study recovery techniques due to large upsets.

NASA's efforts to support routine UAS operations continued on several fronts last year. At the national level in the United States (U.S.), NASA continued its support of the UAS Executive Committee (ExCom) comprised of the Federal Aviation Administration (FAA), Department of Defense (DoD), Department of Homeland Security (DHS), and NASA. The committee was formed in recognition of the need of UAS operated by these agencies to access to the National Airspace System (NAS) to support operational, training, development and research requirements. Recommendations were received on how to operate both manned and unmanned aircraft in class D airspace and plans are being developed to validate and implement those recommendations. In addition the UAS ExCom has begun developing recommendations for how to achieve routine operations in remote areas as well as for small UAS operations in class G airspace.

As well as supporting the UAS ExCom, NASA is a participant in the recently formed Aviation Rule Making Committee for UAS. This committee, established by the FAA, is intended to propose regulatory guidance which would enable routine civil UAS operations. As that effort matures NASA stands ready to supply the necessary technical expertise to help that committee achieve its objectives. By supporting both the UAS ExCom and UAS ARC, NASA is positioned to provide its technical expertise across the full spectrum of UAS airspace access related topic areas.

The UAS NAS Access Project got underway this past year under the leadership of NASA's Aeronautics Research Mission Directorate. This project is focused on advancing the state of the art and providing research and analysis results in the areas of Separation Assurance, Communications (non-governmental spectrum allocation for UAS), Certification, and Human System Integration (ground control station design/pilot interfaces). The project is working in close coordination with the FAA and industry standards organizations (e.g. RTCA SC 203). More details on this project are provided in a separate article in this year's yearbook.