

# CALLBACK

From NASA's Aviation Safety Reporting System



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## 50 YEARS of Turning Safety Reports into Safer Skies

This month, NASA's Aviation Safety Reporting System (ASRS) celebrates 50 years of continuous operations. The beloved safety reporting system and repository for those ol' "NASA forms" has grown and flourished for half a century through extraordinary change in most every sector of aviation. Ever true to founding principles and philosophy, ASRS commitment and passion have helped mold our National Airspace into a safer aviation environment. This edition of *CALLBACK* recalls ASRS's history and its successes in the tradition of nurturing a robust aviation safety culture that strives for excellence and continuous improvement. It is dedicated to our reporters, readers, and stakeholders, to whom we are indebted for their help in influencing aviation safety in a significant way.

### In the Beginning...

ASRS was conceived out of tragedy, but tragedy was not in vain. On December 1, 1974, while on approach in instrument conditions (IMC) to Dulles Airport (IAD) in Virginia, TWA Flight 514 impacted a mountaintop. All onboard were lost. An ATC clearance had been misunderstood, which led the crew to descend to 1,800 feet prior to reaching the segment of the approach to which that minimum altitude applied.

The NTSB investigation revealed that another air carrier flight, six weeks earlier, had flown the same approach and experienced the same misunderstanding at the same location, but narrowly missed the mountaintop and landed successfully. That information was shared internally with company pilots, but no system existed whereby detailed information critical to flight safety could be disseminated to pilots of other carriers or the aviation community in general. The TWA tragedy revealed the need for such a system.

The FAA acted upon the need for critical safety data to be collected and quickly shared throughout the aviation industry. The FAA Administrator looked to NASA, separate from enforcement and investigative bodies, to develop and administer the new safety reporting system. Human Factors Researchers at NASA Ames Research Center designed the system based on four key principles that still underpin the ASRS model today. The system was designed to be: Voluntary, Confidential, Non-Punitive, and Independent. The FAA agreed to fund the program and to provide

incentives for reporting, and NASA would be the neutral third-party to operate the reporting system. Thus, out of the TWA 514 tragedy, ASRS was born. Operations began on April 15, 1976.

### Did You Know That...

NASA's ASRS collects, analyzes, and processes aviation incident reports. ASRS also disseminates important information from those reports and related products to appropriate authorities and the public at large with the sole intent of improving flight safety. That purpose drives ASRS duties, activities, and products, each one beginning with an incident that someone thought worthy to report, regardless of how insignificant it may have appeared. Any interested party can submit a safety report, but most are received from pilots, air traffic controllers, cabin crew, dispatchers, maintenance technicians, UAS operators, ground personnel, and other stakeholders. Reporting is voluntary, identities are kept confidential, and the system is non-punitive in accordance with Aviation Circular AC 00-46F and 14 CFR 91.25.

### Hazards Identified and Lessons Learned

Reported incidents are the currency that ASRS needs to function, and that currency now generally exceeds 10,000 reports received each month, with a total to date of over 2.3 million. ASRS expert personnel work relentlessly to process your reports. When a report is received, it is analyzed by ASRS's dedicated staff, which consists of subject matter experts covering every branch of aviation. Each report is screened by a safety analyst who removes any information that could identify the reporter while retaining the pertinent details of the incident.

Analysis then promotes safety, generating a variety of products that communicate hazards, human factors, and lessons learned in each report. When reports suggest that hazards or system-wide safety concerns need amelioration, Safety Alert Messages are issued to organizations in positions of authority for evaluation and possible corrective actions. ASRS has issued over 8,150 alert messages to date. ASRS has also conducted many research studies, some at the request of other agencies and organizations. Many are available online and include topics such as weather encounters, runway

incursions, deicing problems, rejected takeoffs, human factors, HAZMAT, wake turbulence, and more.

The Database Online (DBOL) is the ASRS repository where the most engaging, pertinent reports reside. Deidentified, they are kept for public or private research, study, and perusal. Over 420,000 searches have been performed since DBOL's implementation in 2006.

*CALLBACK*, the ASRS monthly newsletter typically receives over 1.5 million reads per year. It features rich excerpts from reported incidents covering fertile aviation topics. *CALLBACK*'s goal is to stimulate thought, training, and discussion for its readers through the lens of human factors while offering vicarious wisdom and lessons learned in the shared experiences of reporters. This month marks our 555th edition. A relatively new ASRS product is the UAS newsletter, "UAS Safety In Sight." It was first published in August 2021, shortly after a customized report form was launched for UAS operators. ASRS analysis of UAS reports is ongoing to aid integration of UAS operations safely into the National Airspace System (NAS). As of March 2026, ASRS has published 17 editions of "UAS Safety In Sight."

## Mining Gold From the Heart

Cemented in ASRS's 50 years of history are numerous gems, achievements, and victories. Notable achievements emerge when ASRS initiatives take form and become changes or corrections that will impact safety for the better. These visible victories usually result in operational or procedural changes mandated for appropriate users, and they can affect large portions of the aviation community. Examples are prolific. Circa 1979, ASRS was key in the evolution of Crew Resource Management (CRM) and its human factors approach to aviation. In 1981, the Sterile Cockpit Rule was introduced. It had considerable ASRS input. Traffic Collision Avoidance System (TCAS) had ASRS beginnings, as did the more recent PNF (Pilot Not Flying) change of nomenclature to PM (Pilot Monitoring). The change clearly and correctly suggested the PM's more important role within the crew than an idle "Pilot Not Flying."

In recent years, the FAA and aviation industry have continued to rely on ASRS to understand how safety impacts and policy changes unfold, drawing on the program's unique ability to examine conditions and analyze operational challenges from reporter perspectives.

ASRS data has supported FAA initiatives related to glass-cockpits, GPS-based RNAV arrival and departure procedures, automation management, and 5G radar altimeter interference. ASRS support has also aided

NOTAM modernization, fatigue countermeasures, aircraft separation standards, runway incursion mitigation efforts, and operational impacts stemming from COVID-19. Within these arenas, ASRS has provided a vital, real-time look into how aviation personnel experience and conquer change throughout the NAS.

These are real achievements that signify success, but the rewards are difficult to calibrate. As incidents and accidents prevented are unknowable, so is the satisfaction and pride that each ASRS team member derives in contributing to the ASRS mission. These gems are individual and personal, and they represent the heart and soul, experience, effort, and love of aviation that is given for its betterment.

From early days, ASRS has enjoyed exceptional support from other agencies, unions, industry partners, and others as the value of the system became evident. This is also indicated by the numerous entities that have emulated the ASRS safety reporting model. In fact, NASA also operates the Confidential Close Call Reporting System (C<sup>3</sup>RS) for railroad operations, in conjunction with the Federal Railroad Administration. Within the U.S., healthcare, firefighting, construction, and cybersecurity professions have followed suit and developed their own reporting systems. Outside our borders, others have seen the ASRS model and built similar safety reporting systems. As a founding member of the International Confidential Aviation Safety Systems (ICASS) Group since 1989, ASRS continues to support the development of numerous reporting programs worldwide.

## The Future Begins Now

The next half-century will hold many opportunities for ASRS. Emerging technologies such as UAS, e-VTOL, and commercial space flight are expanding their operations throughout the NAS. As these and other technologies advance, new safety issues will emerge. ASRS will remain robust and poised to identify deficiencies and discrepancies in the NAS. It will continue to disseminate critical information to the aviation community, improve flight safety in future systems, and enhance research in human factors and recommendations in all aviation endeavors.

## When in Doubt, Fill it Out!

As ASRS completes its first half-century, we earnestly thank all our reporters for the rich quality of reports received. You make aviation safer by reporting, and you enable others to learn vicariously from your experiences. As ASRS moves into its next half-century, we challenge you to continue your steadfast participation. It only works because of YOU!

| ASRS Alerts Issued in February 2026 |               |
|-------------------------------------|---------------|
| Subject of Alert                    | No. of Alerts |
| Aircraft or Aircraft Equipment      | 5             |
| Airport Facility or Procedure       | 13            |
| ATC Equipment or Procedure          | 8             |
| Hazard to Flight                    | 4             |
| Other                               | 6             |
| <b>TOTAL</b>                        | <b>36</b>     |

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 Newsletter from  
 The NASA  
 Aviation Safety  
 Reporting System*  
 P.O. Box 189  
 Moffett Field, CA  
 94035-0189  
<https://asrs.arc.nasa.gov>

| February 2026 Report Intake |              |
|-----------------------------|--------------|
| Air Carrier/Air Taxi Pilots | 4,695        |
| General Aviation Pilots     | 1,418        |
| Flight Attendants           | 1,302        |
| Military/Other              | 672          |
| Controllers                 | 266          |
| Mechanics                   | 260          |
| Dispatchers                 | 233          |
| <b>TOTAL</b>                | <b>8,846</b> |