NASA Aviation Safety Reporting System (ASRS)

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ASRS Purpose and Mission Mandate

**Identify** deficiencies and discrepancies in the National Airspace System

**Provide data** for planning and improvements to the future National Airspace System

Mandated scope in original Federal Register Notice, FAA Advisory Circulars, FAA/NASA MOA(s) and IAA(s). Largely determines program priorities.
VOLUNTARY PARTICIPATION
Aviation personnel voluntarily submit reports concerning events related to safety for the purpose of system alerting, understanding and learning

CONFIDENTIALITY PROTECTION
Protection of identity is provided by NASA through de-identification of persons, companies, and any other identifying information

INDEPENDENT
Necessary for trust building and unbiased dissemination of safety information

NON-PUNITIVE
FAA will not use, nor will NASA provide, any report submitted for inclusion under ASRS guidelines or information derived therein for use in any disciplinary or other adverse action (14 CFR 91.25 & AC 00-46E)
Paragraph 9. c. FAA Advisory Circular No. 00-46E

C. Enforcement Restrictions. The FAA considers the filing of a report with NASA concerning an incident or occurrence involving a violation of 49 U.S.C. subtitle VII or the 14 CFR to be indicative of a constructive attitude. Such an attitude will tend to prevent future violations. Accordingly, although a finding of violation may be made, neither a civil penalty nor certificate suspension will be imposed if:

1. The violation was inadvertent and not deliberate;

2. The violation did not involve a criminal offense, accident, or action under 49 U.S.C. § 44709, which discloses a lack of qualification or competency, which is wholly excluded from this policy;

3. The person has not been found in any prior FAA enforcement action to have committed a violation of 49 U.S.C. subtitle VII, or any regulation promulgated there for a period of 5 years prior to the date of occurrence; and

4. The person proves that, within 10 days after the violation, or date when the person became aware or should have been aware of the violation, he or she completed and delivered or mailed a written report of the incident or occurrence to NASA.
ASRS Metrics and Report Processing
Report Processing Flow

1. Report Receipt
2. Date/Time Stamp
3. Screening
   - Alert Messages
4. De-Identify
5. Callback
6. Analyst Coding
7. Match Multiples
8. Quality Check
9. Database Entry
10. Destruction of Originals
11. Products & Services
Report Processing Flow

Direct Reports (Electronic and Paper)
ASAP and ATSAP Reports (Electronic and Paper)
Over 42 years of confidential safety reporting

Total report intake for 2017 was 94,302

Over 8,172 reports per month, or 389 per working day

Current rate estimate for 2018 is over 98,500
Report Intake Source (ALL)
January 2017 – September 2018

n = 167,852

- ASAP Electronic, 127,039, 76%
- Direct Electronic, 28,528, 17%
- ATSAP Electronic, 11,351, 7%
- Direct Paper, 929, 0.6%
- ASAP Paper, 5, 0.003%
Incident Reporter Distribution
January 2017 – September 2018

- Air Carrier FLC, 61.0%
- General Aviation FLC, 16.3%
- Air Taxi FLC, 4.3%
- Cabin, 5.9%
- Air Traffic Control, 7.0%
- Ground, 3.9%
- Maintenance, 2.8%
- Dispatch, 2.1%
- Other, 0.3%

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11. Alert Messages
ASRS issued a total of 163 Alert and FYI messages between Jan 2018 and Sept 2018

Content selected by Expert Analysts

Every alert is reviewed by the Director

Alert recipients are invited to provide feedback to comment on actions taken
Report Processing Flow
Incidence of ASRS Multiple Reports

- Provides information from more than one person’s perspective on a single event

[Diagram showing perspectives from Pilot, Mechanic, ATC, and Flight Attendant, with percentages 26% and 100%]
Report Processing Flow

Comprehensive and Time-Tested Coding Taxonomy
ASRS – Examples of Coded Anomaly Types
January 2017 – September 2018

- Critical Aircraft Equipment Problem: 1,347
- Controlled Flight Towards Terrain (CFTT): 787
- NMAC: 634
- Ground - Loss of Aircraft Control: 421
- Critical Ground Conflict: 332
- Inflight Loss of Aircraft Control: 161

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*Categories are not mutually exclusive.
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October 2018
Every report to the ASRS returns an Identification Strip to the mailing address provided.

Manual, context-dependent, de-identification of report narratives and fixed-field codes.
ASRS Report Records Are Public:
- Direct request to ASRS Office via website “Contact Us”, email, or phone
- Direct Access to Database Online (DBOL)
Direct access to search de-identified reports in the ASRS database is available through **ASRS Database Online** (DBOL) at [https://asrs.arc.nasa.gov/search/database.html](https://asrs.arc.nasa.gov/search/database.html).

- Over **1,486** queries are completed each month
- More than **211,170** DBOL queries completed since its launch in July 2006
- FAA is the most frequent requestor, also academia, research, government, air carriers
Report Processing Flow
These products and services fulfill the program’s mission to disseminate safety data

- **ALERT MESSAGES**
  Safety information issued to organizations in positions of authority for evaluation and possible corrective actions.

- **QUICK RESPONSES**
  Rapid data analysis by ASRS staff on safety issues with immediate operational importance generally limited to government agencies.

- **ASRS DATABASE**
  The public ASRS Database Online and data available in Database Report Sets or Search Requests full filled by ASRS staff.

- **CALLBACK NEWSLETTER**
  Monthly newsletter with a lessons learned format, available via website and email.

- **SPECIAL STUDIES**
  Studies/Research conducted on safety topics of interest in cooperation with aviation organizations.

+ Monthly FAA Telecons
+ Semi-Annual Briefings at Aviation Industry Symposium
Credibility
It is safe to report

- National reputation: NASA operates ‘for the public good’
- Strong immunity and legal provisions
- Secure data confidentiality protections, careful de-identification

Every report matters

- ALL reports read by aviation expert analysts
- Acknowledge receipt
- Analysts call reporters for clarity (more frequently, more trust)
- Online database, Newsletter (“reports from people just like me”)

Every person plays a role in Aviation Safety

- Report to prevent someone else from making the same mistake
ASRS has been building credibility for over 42 years through:

- Flight Schools and Flight Instructors
- Aircraft Owners and Pilots Association (AOPA)
- Airlines
- Labor Organizations (ALPA, APA)
- Promotional Events (Flight Shows, Airport Open Houses and Aviation Safety Seminars)

It is an on-going process.

Challenges: General Aviation, Cabin, Maintenance, Ground, Dispatch
Credibility: Advocating for ASRS

- **Direct alerting** *(What is relevant? Who needs to know?)*
  - ASRS aviation experts screen and triage every report

- **ASRS provides a system-wide perspective**
  - Matches multiple reports into a single event record provides a richer picture
  - Formal chain of communication to share lessons learned from one airline to another, from one pilot to all etc.

- **ASRS adds value -- from data to information**
  - Safety products (alerts, search requests, special studies, newsletters)
  - Collaboration with Industry / Airlines / FAA / NTSB

- **ASRS data helps us understanding WHY**
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