

NASA's Aerospace Safety Advisory Panel – It's History, Mission, and Impact

Presented by David West

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of the
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DISCLAIMER

Views expressed are those of the speaker and do not necessarily reflect official positions of NASA or the Aerospace Safety Advisory Panel.

HISTORY OF THE ASAP



“We’ve got a fire in the cockpit!”

January 27, 1967

Astronauts Gus Grissom, Ed White,
and Roger Chaffee perished when
their AS-204 (Apollo 1) capsule
caught fire atop Launch Pad 34 at the
Kennedy Space Center, FL



Apollo 1 Aftermath: Investigation and Recommendations

- No exact cause (ignition source) was ever identified
- Contributing factors:
 - High-pressure oxygen in the capsule
 - Deficiencies in design, manufacture, installation and quality control
 - Management and testing failures
- Recommendations:
 - Redesign of the spacecraft
 - Improved quality control
 - New procedures for testing and emergencies
- Several “Giant Leaps” for Safety:
 - “They went back and revisited every single design and procedure to examine contributions to the fire. Apollo became much more reliable than it would have been otherwise.” (Needell)
 - Apollo 1 – last time a pure O2 environment was used in a capsule on the ground.
 - Congress established the Aerospace Safety Advisory Panel in 1968

“The amount of wiring and things that could go wrong inside Apollo were hundreds of times greater.”

- Allan Needell, Apollo Curator at the National Air and Space Museum

“Apollo 1 was a tragic event and we lost three really good friends, but it may have saved the program... If we’d had something like that happen on the way to the Moon, it probably would have ended.”

- Gerry Griffin, NASA Guidance, Navigation, and Control Systems Officer



[Ref. “The fire that may have saved the Apollo programme,” Richard Hollingham, BBC]



Aerospace Safety Advisory Panel
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Public Law 90-67
90th Congress, S. 1296
August 21, 1967

An Act

81 STAT. 168

To authorize appropriations to the National Aeronautics and Space Administration for research and development, construction of facilities, and administrative operations, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby authorized to be appropriated to the National Aeronautics and

National
Aeronautics and

SEC. 6. There is hereby established an Aerospace Safety Advisory Panel consisting of a maximum of nine members who shall be appointed by the Administrator for terms of six years each. The Panel shall review safety studies and operations plans referred to it and shall make reports thereon, shall advise the Administrator with respect to the hazards of proposed or existing facilities and proposed operations and with respect to the adequacy of proposed or existing safety standards and shall perform such other duties as the Administrator may request. One member shall be designated by the Panel as its Chairman.

The Aerospace Safety Advisory Panel (ASAP) was established by Congress under Section 6 of the National Aeronautics and Space Administration Act of 1968, as amended (51 U.S.C. § 31101)

THE ASAP'S MISSION

The ASAP's Mission

- From the Public Law that created the panel:
 - Review safety studies and operations plans; make reports thereon
 - Advise the Administrator with respect to
 - Hazards of proposed or existing facilities and proposed operations
 - Adequacy of proposed or existing safety standards
 - Perform such other duties as the Administrator may request
- The ASAP's charter is posted at <https://oiiir.hq.nasa.gov/asap/charter.html>
- The ASAP operates in accordance with the Federal Advisory Committee Act (FACA); the ASAP charter meets requirements of §9(c) of the FACA
- FACA places special emphasis on open meetings, chartering, public involvement, and reporting

The ASAP's Mission (Cont.)

- Additional duties/provisions, from the ASAP's charter:
 - Advise the Administrator with respect to management and culture related to safety
 - Deliberate and report findings and recommendations to the Administrator; report any time-critical findings immediately
 - Submit an annual report to the Administrator and to Congress (required by Congress after the Shuttle Columbia accident)
 - Hold four full Panel meetings each year
 - Special full Panel meetings as needed
 - Additional meetings of individual panelists or small groups of panelists as needed
 - Panel shall terminate two years after filing of the charter, unless renewed or terminated earlier by the Administrator



The ASAP's Mission (Cont.)

- Additional requirements applicable to ASAP membership and meetings
 - Membership must be balanced in terms of points of view represented and functions to be performed
 - Members are Special Government Employees (SGEs) subject to ethics laws
 - Meetings must
 - have 15 days advance notice in the Federal Register
 - be open to the public (unless limited closure bases apply)
 - Have minutes which are available to the public (except for closed portions of meetings)

The ASAP's Mission (Cont.)

- How the ASAP operates
 - Four quarterly meetings, generally held at
 - Kennedy Space Center, FL
 - Marshall Space Flight Center, AL
 - NASA Headquarters in Washington, DC
 - Johnson Space Center, TX
 - Quarterly meetings typically consist of
 - Two full days of open sessions with key NASA leaders, program managers, and knowledgeable program representatives
 - Occasional closed executive sessions
 - Closed administrative sessions (Panel members only)
 - Tours of key facilities
 - Public meeting (1- to 1-1/2 hours)



ASAP 2020 1st Quarterly Meeting held at NASA Kennedy Space Center



ASAP members touring Launch Pad 39A at Kennedy Space Center, May 2018

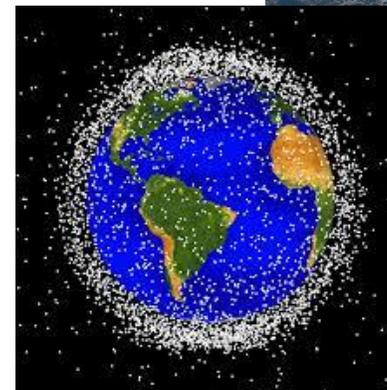
THE ASAP'S IMPACT

The ASAP's Impact

- The ASAP adds value by:
 - Identifying blind spots
 - Asking probing questions to instigate deeper thinking on issues
 - Reinforcing key decisions and policies
 - Providing input to Congress
- NASA must respond to (but not necessarily concur with) all ASAP recommendations

The ASAP's Impact – Formal Recommendations

- Over 120 ASAP recommendations dating back to 2008, including NASA responses, ASAP responses, and current status, can be found at <https://oiiir.hq.nasa.gov/asap/recommendations.html>
- NASA must respond to (but not necessarily concur with) all ASAP recommendations
- Some notable recommendations in recent years have addressed topics such as
 - ISS safe deorbit
 - MMOD/Space Traffic Management
 - STEP Training
 - Next generation spacesuits



The ASAP's Impact – Advice and Input

- In addition to formal recommendations, the ASAP also provides input and advice to NASA, often communicated in
 - Annual reports
 - Discussions during quarterly meetings
 - Minutes of quarterly meetings
- Notable examples:
 - Cautioning against undue schedule pressures
 - Building a second mobile launch platform
 - Continuing with plans for Green Run



“[The] panel would like to reiterate again its firm belief that the Green Run, which is a full scale, fully instrumented test of the propulsion system, is a critical safety and mission assurance milestone for the program and should be retained. In addition, as the panel has previously commented, it is really important that the program continue to ensure that the Artemis-1 mission incorporates those elements of test that are required to retire risk prior to the first crewed mission on Artemis-2. — ASAP Member David West”

QUESTIONS?

David B. West, CSP, ASP, PE, CHMM
david.west@bcsp.org