U.S. Civil Supersonic Aircraft Operations:

*Overcoming the Regulatory Obstacles*

PRESENTED BY: Ted Ellett, Aviation Partner, Hogan Lovells

---

**Regulatory Obstacles to Civil Supersonic Aircraft Industry**

**Biggest obstacles to U.S. Civil Supersonic Aircraft Industry are regulatory, not technical:**

1. Lack of FAA landing and takeoff noise certification standards for supersonic aircraft in FAR Part 36
2. FAA's prohibition on civil aircraft operations over Mach 1 in the U.S. without a special FAA authorization
Regulatory Obstacles to Civil Supersonic Aircraft Industry (Cont’d.)

Operational prohibition stems from FAR Section 91.817(a) (Civil aircraft sonic boom):

§91.817 Civil aircraft sonic boom.

a) No person may operate a civil aircraft in the United States at a true flight Mach number greater than 1 except in compliance with conditions and limitations in an authorization to exceed Mach 1 issued to the operator under appendix B of this part. (Emphasis added.)

b) In addition, no person may operate a civil aircraft for which the maximum operating limit speed MMO exceeds a Mach number of 1, to or from an airport in the United States, unless-

1) Information available to the flight crew includes flight limitations that ensure that flights entering or leaving the United States will not cause a sonic boom to reach the surface within the United States; and

2) The operator complies with the flight limitations prescribed in paragraph (b)(1) of this section or complies with conditions and limitations in an authorization to exceed Mach 1 issued under appendix B of this part.

Consequences of Regulatory Obstacles—

- Retard design finalization and Type Certificate application
  - Lack of Part 36 landing and takeoff noise certification standards deters manufacturers from finalizing their design and applying for a Type Certificate
    - No certainty regarding noise standard FAA might apply
- Prohibit supersonic operation even for quieter supersonic aircraft
  - "Speed limit" prohibits flights at supersonic speed in the U.S. even for supersonic aircraft that-
    - Are comparatively quiet on takeoff and landing
    - Create a sonic boom that is inaudible or barely audible on the ground
Aerospace Industries Association Supersonic Working Group

- Supersonic Working Group (SWG) convened under auspices of AIA in January of 2017
- SWG includes 10 leading aerospace companies –
  - Aerion
  - Boom
  - Embraer
  - GE
  - Gulfstream
  - Honeywell
  - Lockheed Martin
  - Raytheon
  - Rolls-Royce
  - United Technologies

Aerospace Industries Association Supersonic Working Group (Cont’d.)

SWG Goals

- Ensuring that the U.S. remains the leader in supersonic aircraft technologies
- Eliminating the prohibitions on supersonic flight operations over land in the U.S.
- Encouraging the FAA and ICAO to develop timely noise and emissions requirements for supersonic aircraft –
  - That take into consideration the differences between subsonic and supersonic aircraft
Aerospace Industries Association Supersonic Working Group (Cont’d.)

Activities of SWG and its aerospace company members

- **FAA**
  - Meeting with FAA and senior FAA officials to encourage:
    - Reasonable FAA policies and standards on landing and takeoff noise and sonic boom for supersonic aircraft
    - FAA leadership on supersonic aircraft issues at ICAO and with other National Aviation Authorities

- **ICAO**
  - Participating in the ICAO Committee on Aviation Environmental Protection (CAEP) and its Steering Group, Working Group 1 (Noise), and Working Group 3 (Emissions)

- **Congress**
  - Worked with the House Transportation and Infrastructure Committee to develop legislative language aimed at clearing a regulatory path for civil supersonic aircraft
  - **H.R. 2997** contains this language in Section 629, FAA Leadership on Civil Supersonic Aircraft
  - **H.R. 2997** is the version of the FAA Reauthorization legislation that has passed the House Transportation and Infrastructure Committee
  - Currently meeting with House and Senate committee staff and staffers of Members and Senators to:
    - Explain the need for this legislation
    - Express SWG’s strong support for its passage
H.R. 2997, Section 629, FAA Leadership on Civil Supersonic Aircraft

• FAA shall –
  I. Exercise leadership in U.S. and internationally on civil supersonic aircraft issues
  II. Consider the needs of the aerospace industry and other stakeholders when creating policies, regulations, and standards for civil supersonic aircraft and supersonic operations

H.R. 2997, Section 629, FAA Leadership on Civil Supersonic Aircraft

• FAA shall –
  III. Obtain the input of the aerospace industry stakeholders on:
   a) The appropriate regulatory framework for U.S. civil supersonic aircraft operations
   b) Type certification, noise certification, and operational standards issues, including:
      1) Operational differences between subsonic and supersonic aircraft
      2) Costs and benefits related to landing and takeoff noise requirements for civil supersonic aircraft, including impacts on emissions
      3) Public and economic benefits of civil supersonic aircraft operations and associated aerospace industry activity
      4) Challenges related to ensuring that aircraft noise and sonic boom standards are:
         ▪ Economically reasonable,
         ▪ Technologically practicable, and
         ▪ Appropriate for civil supersonic aircraft
   c) Other issues to enable the safe commercial deployment and safe and efficient operation of civil supersonic aircraft
H.R. 2997, Section 629, FAA Leadership on Civil Supersonic Aircraft

- FAA shall –
  
  IV. Report to Congress within one year on FAA's actions, planned actions, and a timeline for actions update policies and regulations on civil supersonic aircraft

Status and Next Steps

- House and Senate recently passed a 6-month extension of all FAA programs through March 31, 2018
  - During this period both bodies will work to develop an FAA Reauthorization bill that will be acceptable to each
- SWG and its members will continue
  - Meeting with FAA officials
  - Participating in the ICAO CAEP Steering Group, and its Working Groups 1 and 3
  - Lobbying Congress in support of Section 629 of H.R. 2997
Status and Next Steps

- All those in the Business Aviation community who support civil supersonic aircraft should consider joining SWG’s efforts –
  - And especially supporting Section 629 of H.R. 2997 on Capital Hill