

O'HARE * MIDWAY

INTERNATIONAL AIRPORTS

FEDERAL NOISE STANDARDS FOR AIRPLANES AND HELICOPTERS

O'HARE NOISE COMPATIBILITY COMMISSION (ONCC)

TECHNICAL COMMITTEE

FEBRUARY 20, 2018



FEDERAL STATUTES GOVERNING AIRCRAFT AND AIRPORT NOISE

- The Federal Aviation Act of 1958
- The Control and Abatement of Aircraft Noise and Sonic Boom Act of 1968
- The Airport and Airway Improvement Act of 1970
- The Noise Control Act of 1972
- Aviation Safety and Noise Abatement Act of 1979
- Airport Noise and Capacity Act of 1990
- 14 CFR Part 36: Aircraft Type and Air Worthiness Certification Standards
- 14 CFR Part 91: General Operating and Flight Rules
- 14 CFR Part 150: Airport Noise Compatibility Planning
- 14 CFR Part 161: Notice and Approval of Airport Noise and Access Restrictions
- FAA Order 1050.1F, Environmental Impacts: Policies and Procedures
- FAA Order 5050.4B, National Environmental Policy Act (NEPA), Implementing Instructions for Airport Actions

AIRPORT NOISE AND CAPACITY ACT OF 1990 (ANCA)

- Passed by Congress on November 5, 1990
- Attempted to create a more comprehensive method for regulating aircraft noise
- Goal was to balance community interests with aviation interests
- Tasked the FAA with establishing a national aviation noise policy
 - Public hearings conducted in Chicago, Seattle, and Washington D.C.
- Balance was accomplished in two Federal Aviation Regulations
 - **FAR Part 91:** Required phase-out of Stage 2 aircraft before January 1, 2000
 - **FAR Part 161:** Restricts airport ability to regulate airport access based on noise

PART 36 “NOISE STANDARDS: AIRCRAFT TYPE AND AIRWORTHINESS CERTIFICATION”

- Aircraft must meet Part 36 standards to receive new or revised “type” or “airworthiness” certificates to operate in the U.S.
- Noise standards for most aircraft are defined in terms of “stages.”
 - Stage 1
 - Stage 2
 - Stage 3
 - Stage 4
 - Stage 5 – *Approved in 2017*

STAGE 5 AIRPLANE NOISE STANDARDS

- New Stage 5 standard ensures that new aircraft designs incorporate the latest available noise reduction technology that results in aircraft noise reductions experienced by communities.
- The Stage 5 standard is 7 dB lower than the Stage 4 standard
- Stage 5 applies to all new aircraft seeking certification as of:
 - Aircraft equal to or greater than 121,254 lbs. - January 1, 2018
 - Aircraft less than 121,254 lbs. - January 1, 2020

STAGE 3 HELICOPTER NOISE STANDARDS

- New Stage 3 standard ensures that new more stringent noise standard is adopted and will reduce noise exposure from helicopters experienced by communities.
- The Stage 3 standard is 3 dB lower than the Stage 2 standard
- Stage 3 applies to all new helicopter seeking certification as of March 5, 2014

PART 36 IMPLEMENTATION TIMELINE

1969: FAA established initial Part 36 standards

- Stage 1 and 2

1977: Increased stringency and introduced stages

- Stage 1 aircraft have never been shown to meet any noise standards (either by failing or never having been tested)
- Stage 2 aircraft meet original 1969 limits
- Stage 3 aircraft meet more stringent 1977 limits

1985: Mandatory Stage 1 phase-out (aircraft in excess of 75,000 lbs.)

1990: Airport Noise Capacity Act

- Set mandatory deadline for Stage 2 phase-out (January 1, 2000)

2000: Mandatory Stage 2 phase-out (aircraft in excess of 75,000 lbs.)

2006: Stage 4 requirement for newly certified aircraft (Federal Register, July 5, 2005)

2014: Helicopter Stage 3 requirement (Federal Register, March 4, 2014)

2016: Mandatory phase-out for all remaining Stage 1 and 2 aircraft less than 75,000 lbs. (Federal Register, July 2, 2013)

2018: Stage 5 requirement for newly certified aircraft equal to or greater than 121,254 lbs. (Federal Register October 4, 2017)

2020: Stage 5 requirement for newly certified aircraft less than 121,254 lbs. (Federal Register October 4, 2017)

PART 91 “GENERAL OPERATING AND FLIGHT RULES, SUBPART I – OPERATING NOISE LIMITS”

- Limits aircraft operations in the U.S. based on Part 36 certification status
- Phase-out older, noisier jets
 - Stage 1 airliners (over 75,000 pounds) phased out in 1980s
 - Stage 2 airliners (over 75,000 pounds) phased out by January 1, 2000 due to ANCA
 - Stage 1 and 2 jets under 75,000 pounds (largely general aviation jets) phased out by January 1, 2016
 - No Stage 3 phase-out planned at this time

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