PORT AUTHORITY NY NJ

JFK NCP Record of Approval (ROA)

April 26, 2023

AIR LAND RAIL SEA

NCP Timeline

- **Final NCP was submitted to FAA on September 6th, 2022**
- **NCP received FAA's Record of Approval on March 14th, 2023 (http://panynjpart150.com/JFK_NCPA.asp)**
- **Federal Register Notice was published on March 20, 2023 (https://www.federalregister.gov/documents/2023/03/20/2023-05577/approval-of-john-f-kennedy-international-airport-jfk-noise-compatibility-program)**
- **Email was sent to JFK TAC members including JFK roundtable committee members on March 22nd, 2023**

ROA Summary

- 20 measures were approved (5 noise abatement, 3 land use, 12 programmatic)

- Approved noise abatement measures:
  - NA 1: Implement “Tighten SKORR” Departure Procedure
  - NA 2: Turn Runway 22L and 22R Departures to Heading 240 at Night
  - NA 3: Reduce Runway 31L Intersection Departures at Night
  - NA 4: Combine “Tighten SKORR” Departure Procedure with Reduce Runway 31L Intersection Departures at Night
  - NA 7: Continue Existing Mandatory Departure Noise Limit and $250 Penalty – ***Existing***

- These NA measures were approved because they showed noise benefits inside the 65 DNL contour

Disapproved NA Measures

- 2 noise abatement measures were disapproved
  - NA 5: Implement Noise Abatement Departure Profiles on a Voluntary Basis for Each Runway End
  - NA 6: Implement Nighttime Optimized Profile Descent Procedures

- Measures NA 5 and NA 6 were disapproved for the purposes of the Part 150 because the measures did not show noise benefits within the 65 DNL contour.

- Disapproved NA measures can be pursued by the Port Authority for implementation outside of Part 150.

Approved Land Use Measures

- 3 land use measures were approved

- Approved land use measures:
  - LU 1: Sound-Insulate Eligible Dwelling Units
  - LU 2: Sound-Insulate Eligible Non-Residential Noise-Sensitive Structures
  - LU 3: Include Aircraft Noise in Real Estate Disclosures

Approved Programmatic Measures

- 12 programmatic measures were approved (6 existing, 6 new)

- Approved **existing** programmatic measures:
  - PM 1: Maintain Noise Office
  - PM 2: Maintain Noise and Operations Management System
  - PM 3: Maintain Public Flight Tracking Portal
  - PM 4: Maintain Noise Complaint Management System
  - PM 5: Maintain Noise Office Website
  - PM 6: Continue Community Outreach Activities

- Approved **new** programmatic measures:
  - PM 7: Establish and Manage a Fly Quiet Program
  - PM 8: Make Aircraft Noise Contours Available in a Geographic Information System (GIS)
  - PM 9: Update the Noise Exposure Map
  - PM 10: Update the Noise Compatibility Program
  - PM 11: Post Monthly Color-Coded DNL Values on Port Authority Website
  - PM 12: The Port Authority to Coordinate with the FAA on Development and Implementation of NextGen Procedures

NCP Implementation Schedule (Appendix H)

Measures already in Place	
Noise abatement	NA 7: Continue Existing Mandatory Departure Noise Limit and $250 Penalty
Programmatic	PM 1: Maintain Noise Office
Programmatic	PM 2: Maintain Noise and Operations Management System
Programmatic	PM 3: Maintain Public Flight Tracking Portal
Programmatic	PM 4: Maintain Noise Complaint Management System
Programmatic	PM 5: Maintain Noise Office Website
Programmatic	PM 6: Continue Community Outreach Activities
Programmatic	PM 11: Post Monthly Color-Coded DNL Values on Port Authority Website

NCP Implementation Schedule

Measures to be Initiated within one year	
Noise abatement	NA 1: Implement “Tighten SKORR” Departure Procedure
Noise abatement	NA 2: Turn Runway 22L and 22R Departures to Heading 240 at Night
Noise abatement	NA 3: Reduce Runway 31L Intersection Departures at Night
Noise abatement	NA 4: Combine “Tighten SKORR” Departure Procedure with Reduce Runway 31L Intersection Departures at Night

Measures to be Initiated within two years	
Programmatic	PM 7: Establish and Manage a Fly Quiet Program
Programmatic	PM 8: Make Aircraft Noise Contours Available in a Geographic Information System (GIS)

NCP Implementation Schedule

Measures Which a schedule has not yet been determined	
Land use	LU 1: Sound-Insulate Eligible Dwelling Units
Land use	LU 2: Sound-Insulate Eligible Non-Residential Noise-Sensitive Structures
Land use	LU 3: Include Aircraft Noise in Real Estate Disclosures
Programmatic	PM 9: Update the Noise Exposure Map
Programmatic	PM 10: Update the Noise Compatibility Program

Implemented on an ongoing basis	
Programmatic	PM 12: The Port Authority to Coordinate with FAA on Development and Implementation of NextGen Procedures

Impact of Extreme Heat on Aviation and FAA Mitigation Strategies

Presented to: New York Aviation Community Roundtable

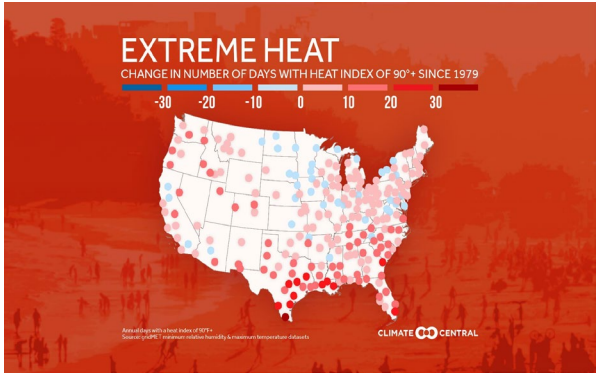
By: Ashleigh Yanoscsik, FAA
Meteorological Analyst, ANG-C61

Date: April 26, 2023

Federal Aviation Administration

Overall Issue

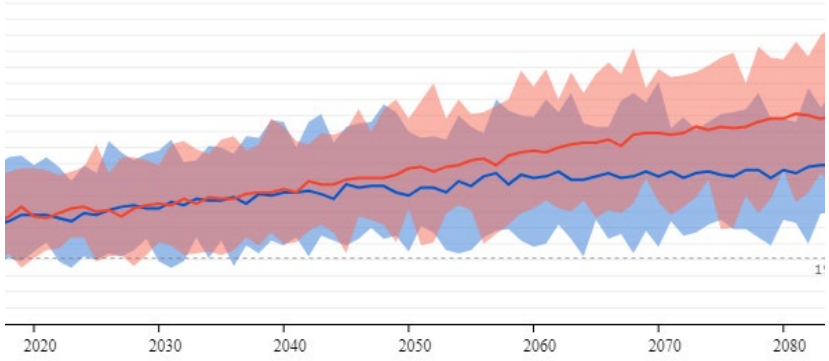
- **Extreme heat events are becoming more common with a changing climate[1]**
- **Surface temperatures over the United States have increased by 0.8 deg. C since the start of the 20th century[2]**
  - Most notable change occurring after 1980
- **The average heat wave in major US urban areas is now four days long, a day longer than heat waves lasted in the 1960s (Environmental Protection Agency)[3]**



1. www.brookings.edu/blog/the-avenue/2023/03/01/americas-airports-arent-ready-for-climate-change/.
2. Climate Change and the Impact of Extreme Temperatures on Aviation in: Weather, Climate, and Society Volume 7 Issue 1 (2015) (ametsoc.org)
3. Breakdown: Why extreme heat can disrupt air travel (actionnews5.com).

Projected Temperature Increases and Number of High Heat (> 100°F) Days in Northeastern US[4]

- **Average Daily Maximum Temperature (June-August):**
  - 2010-2040: 76.1-93.9°F
  - 2035-2065: 76.9-97.1°F
  - 2060-2090: 77.9-101.6°F
- **Number of High Heat Days/Year:**
  - Present: 62.4-68
  - 2050: 63.2-71.8
  - 2080: 63.9-75.9



Projected Number of High Heat Days in New York, NY (NEMAC)

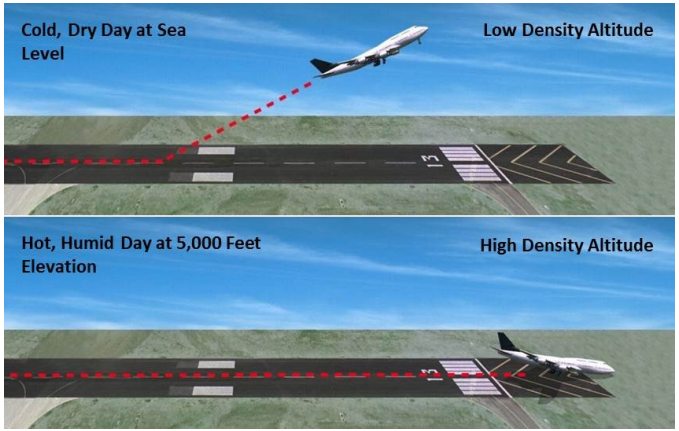
Blue – Number of High Heat Days under Lower Emissions

Red – Number of High Heat Days under Higher Emissions

4. Climate Explorer (nemac.org)

Impact on Aviation: Density Altitude[5]

- **Most "significant" issue is the increase in density altitude on high heat days**
- **Aircraft performance degrades as density altitude increases due to lower air density**
  - Wings do not generate as much lift
  - Engines produce less thrust due to decreased air density available to mix with fuel
    - Results in longer takeoff and landing distances due to faster airspeeds needed to generate sufficient lift
  - The load-carrying capacities (maximum weights that planes can carry) also decrease with a reduced amount of thrust



5. https://simpleflying.com/pilot-extreme-heat-precautions/

Impact on Aviation: Load-Carrying Capacities (LCC)

- **The frequency and magnitude of weight restrictions is projected to increase[6]**
  - For certain aircraft, the number of days requiring weight restrictions could double or triple, possibly covering 50 or more days of the year
- **To decrease load-carrying capacities, airlines have to either decrease passengers cargo, and/or fuel[2]**
- **Even a "fraction of a percent" fewer passengers or less cargo can lead to *millions of dollars* in lost revenue for airlines[6]**

6. Too hot to fly? How heat affects airlines | Human World | EarthSky
2. Climate Change and the Impact of Extreme Temperatures on Aviation in: Weather, Climate, and Society Volume 7 Issue 1 (2015) (ametsoc.org)

Impact of Decreased Load-Carrying Capacities on New York and New Jersey Airports[2]

- A study was performed on 4 airports across the US that are more susceptible to increasing temperatures
- LGA has seen a significant increase in the number of weight restriction days (days when the daily maximum temperature matches or exceeds the weight-restriction temperature threshold)
- Heavily loaded flights would need to substitute aircraft with better takeoff performance and/or be rescheduled out of the hottest parts of the day

2. Climate Change and the Impact of Extreme Temperatures on Aviation in: Weather, Climate, and Society Volume 7 Issue 1 (2015) (ametsoc.org)

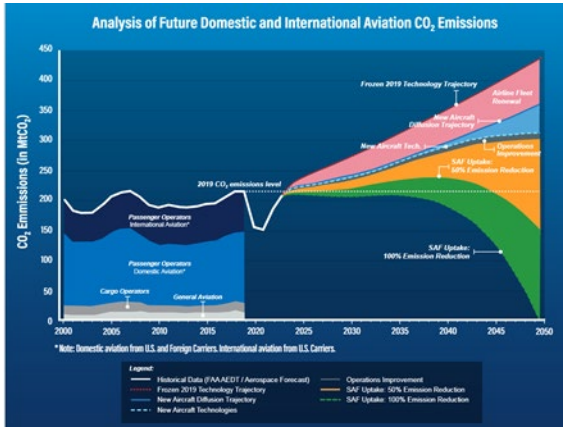
FAA Mitigation: Aviation Climate Action Plan[7]

- **FAA published the United States Aviation Climate Action Plan in November 2021, describing a whole-of-government approach to achieve net-zero emissions by 2050**
- **Actions identified to decrease emissions:**
  - Development of more efficient aircraft
  - Improvements to the National Airspace System
  - Production and use of Sustainable Aviation Fuels
  - Electrification and hydrogen as potential solutions for short-haul trips
  - International initiatives such as the airplane CO2 standard and Carbon Offsetting and Reduction Scheme for International Aviation
  - More support for climate science research

7. Aviation Climate Action Plan | Federal Aviation Administration (faa.gov)

FAA Mitigation: Net-Zero Sustainable Aviation System[8]

- Government is supporting research to cost-effectively reduce climate impacts of aviation by limiting contrail formation
- FAA's NextGen initiatives support environmental goals through air traffic control procedures
- Government currently provides incentives to reduce emissions through funding and development of grant programs



8. Working to Build a Net-Zero Sustainable Aviation System by 2050 | Federal Aviation Administration (faa.gov)

FAA Mitigation: Continuous Lower Energy, Emissions, and Noise (CLEEN) Program[9]

- **FAA's effort of developing aircraft and engine technologies that reduce noise, emissions, and fuel burn**
- **FAA and aviation industry partner through a cost-sharing approach to expedite integration of technologies into current and future aircraft**
- **Supports FAA's NextGen environmental performance goals to achieve environmental protection that sustains aviation growth**
- **Implemented in 5 year phases: 2010-2015, 2015-2020, 2021-2026**
- **5 goal areas:**
  - Noise Reduction Goal
  - Fuel Burn Goal
  - NO_x (Nitrogen Oxides) Emissions Reduction Goal
  - Non-volatile Particulate Matter Emissions Reduction Goal
  - Entry into Service Target

9. Continuous Lower Energy, Emissions, and Noise (CLEEN) Program | Federal Aviation Administration (faa.gov)

2050 Net-Zero Climate Challenge[10]

- **There are currently 3 existing programs that airports can implement through grant funding to reduce greenhouse gas emissions**
  - Voluntary Airport Low Emissions Program
  - Zero Emissions Vehicle (ZEV) Program
  - Airport Sustainability Planning Program
- **In 2021, FAA announced more than $100 million in matching grants to increase aircraft efficiency, reduce noise and aircraft emissions, and develop and implement new software to reduce taxi delays**
  - Biden-Harris Administration also announced its Sustainable Aviation Fuel Grand Challenge, designed to catalyze the production of at least 3 billion gallons/year by 2030
- **In 2022, FAA announced that it will develop a tool for airports to voluntarily estimate, track, and report emissions reduction achieved when implementing projects supported by the existing programs**

10. FAA, U.S. Airports Team up to Meet 2050 Net-Zero Climate Challenge | Federal Aviation Administration

Questions?