FEDERAL AVIATION ADMINISTRATION

RECORD OF APPROVAL

14 CFR PART 150 NOISE COMPATIBILITY PROGRAM

NEWARK LIBERTY INTERNATIONAL AIRPORT

NEWARK, NEW JERSEY

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DAVID A FISH Digitally signed by DAVID A FISH Date: 2023.02.15 08:35:52 -05'00' Manager, Airports Division, AEA-600	 Date	Yes APPROVED		 DISAPPROVED

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NEWARK LIBERTY INTERNATIONAL AIRPORT
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INTRODUCTION

The Newark Liberty International Airport (EWR), Newark, New Jersey, Noise Compatibility Program (NCP) describes the current and future non-compatible land uses based upon the parameters established in Title 14 of the Code of Federal Regulations, Part 150, *Airport Noise Compatibility Planning.* Preparation of this Part 150 Study was initiated by the Port Authority of New York and New Jersey (Port Authority), the airport sponsor, in 2014. EWR submitted their Noise Exposure Maps (NEM) for the period 2019 through 2024. The FAA determined that the NEMs were prepared in accordance with procedures contained in Title 14, Code of Federal Regulations (CFR), Part 150 and accepted the maps on January 15, 2019. The EWR NCP measures were developed subsequent to the initial submission of NEMs for review and approval by FAA. The program evaluated a total of 46 measures and recommends a total of 28 measures to prevent the introduction of additional non-compatible land uses and to reduce the effect of the noise generated at the airport. The recommendations include 13 noise abatement measures, three land use management measures, and twelve program management measures. The recommended measures are summarized in Section 2 (Noise Abatement Measures), Section 3 (Land Use Management Measures), and Section 4 (Program Management Measures) and Appendices C, G, and H of the NCP. More detailed descriptions and additional information on each measure can be found in Section 2.2 (Noise Abatement Measures); Sections 3.2 and 3.3 (Land Use Management Measures); and Section 4.2 (Program Management Measures) of the NCP.

FAA approval discussed herein is for the approval of measures the Port Authority recommends taking and this approval only indicates the recommended measures would, if implemented, be consistent with the purposes of 14 CFR Part 150. FAA approval does not constitute decisions to implement the measures nor does it constitute a commitment by the FAA to provide financial assistance to the Port Authority for the recommended measures. In addition, later decisions concerning possible implementation of the recommended measures may be subject to environmental protection laws and regulations or other procedures or requirements, as applicable.

The measures are identified below by program element and referenced to the NCP by page number. Each program element summarizes as closely as possible the airport operator's recommendations as found in the NCP. The statements contained within the summarized recommendations and before the indicated FAA approval, disapproval, or other determinations do not represent the opinions or decisions of the FAA.

NOISE ABATEMENT MEASURES (NCP Section 2)

1. Design and Implement an Offset Approach Procedure to Runway 22L (Page 2-5)

Description: This measure recommends the design and implementation of an offset approach from the north to Runway 22L to be flown when air traffic conditions allow, and aircraft operators can fly safely. An offset approach is a procedure that approaches the runway at a specified angle to the extended centerline of the runway. This proposed measure is consistent with the Port Authority's existing noise abatement departure procedures, which direct departing aircraft to the east immediately upon reaching a safe altitude to avoid the Ironbound Neighborhood of Newark, NJ. An offset approach could potentially avoid direct overflights of the majority of the properties within the Ironbound Neighborhood, reducing noise by moving the arrival flight path over existing compatible land use.

As shown in Figure 2-1 on Page 2-7, a hypothetical 12° offset approach was considered, similar to the existing Alpha Approach procedure flown at LaGuardia Airport (LGA), with aircraft aligning to the end of the runway at approximately 0.8 nautical miles. It is likely that the initial implementation could occur at night, during conditions of fewer aircraft operations. If this procedure is successfully implemented at night, by extension, the implementation of this measure during daytime would avoid overflights of the Ironbound Neighborhood all times of the day.

Note: Since the development of this proposed measure by the Port Authority in 2017, the FAA has decommissioned the LaGuardia Alpha Approach and replaced it with the LGA RNAV (GPS) X RWY 22 Approach, published October 7, 2021. The replacement approach accomplished the same intent as the Alpha Approach in providing an offset arrival procedure to Runway 22.

FAA Action: PARTIALLY APPROVED AS VOLUNTARY AND PARTIALLY DISAPPROVED. Analysis contained within the NCP (Text, page 2-5 and Tables 2-2 and 2-3 on page 2-15) demonstrates that this measure could reduce the number of residential units within the day-night average sound level (DNL) 65 decibel (dB) contour by 997 with 75% utilization of the proposal during nighttime hours. Further, one school and two daycare facilities could also be removed from the DNL 65 dB contour under these usage assumptions.

The proposed offset procedure would require locating EWR arrival traffic closer to airspace boundaries delineated for EWR and LaGuardia Airport (LGA). FAA Order 7110.65, Air Traffic Control requires at least 3 nautical mile (NM) or 1000' vertical separation between Instrument Flight Rules (IFR) aircraft. Aircraft must remain 1.5NM from airspace boundaries delineated for different airports in order to ensure the minimum required separation of 3NM between aircraft in the terminal environment is maintained. The offset, as proposed, would require that aircraft go closer than 1.5NM to the boundary within EWR airspace. This could only occur at times when LGA has little to no scheduled traffic. Implementation of this measure during periods when LGA is in operation would not meet necessary approval criteria established by 14 CFR Part 150.35(b)(3)(ii) and (iii). Accordingly, this measure is partially approved as voluntary, limited to periods when LGA has little to no scheduled traffic.

Inclusion of these analytical results is presented as the basis upon which the decision was made, as it demonstrates that implementation of the measure could lead to noise reduction. Further, partial approval

of this measure as voluntary does not commit the FAA or Port Authority to achieving the assumptions used for modeling as a target of implementation of the measure. Use of the procedures is subject to Air Traffic Controller discretion based on conditions in place at the time of the operation.

2. Continue Use of Easterly Departure Headings on Runways 4L and 4R (Page 2-17)

Description: An existing noise abatement measure in place at EWR since the 1980s directs aircraft departing on Runways 4L and 4R to turn east, to a heading of 60°, upon reaching a safe altitude, in order to avoid non-compatible areas of the Ironbound Neighborhood in Newark. The 60° heading for aircraft departing Runways 4L and 4R directs aircraft to fly over a compatible industrial area. This measure would maintain the easterly departure headings as a noise abatement measure for aircraft departing Runways 4L and 4R to avoid overflying the Ironbound Neighborhood of Newark. The public has requested, through public comments to the draft EWR NEM, that flight tracks be positioned over compatible land use. This measure is consistent with such public requests.

FAA Action: NO ACTION REQUIRED AT THIS TIME. This measure relates to flight procedures under Title 49 U.S.C. § 47504(b). This measure is under further review by FAA's Air Traffic Organization, including EWR Air Traffic Control Tower and New York Terminal Radar Approach Control specialists regarding impacts to operational safety, in accordance with 14 CFR Part 150.35(a). It is anticipated that an additional 180 days will be required to complete this review and a Supplemental Record of Approval with FAA's final decision on this proposed measure will be issued on or before August 14, 2023.

3. Continue Use of Easterly Departure Headings on Runways 22L and 22R (Page 2-23)

Description: An existing noise abatement measure in place at EWR since the 1980s directs aircraft departing on Runways 22L and 22R to turn east, to a heading of 190°, upon reaching a safe altitude, in order to avoid non-compatible areas in Elizabeth. The 190° heading for aircraft departing Runways 22L and 22R directs aircraft to fly over areas of mixed industrial and non-compatible land use in Elizabeth. This measure would maintain the easterly departure headings as a noise abatement measure for aircraft departing Runways 22L and 22R to avoid overflying the more densely populated area in Elizabeth. The public has requested, through public comments to the draft EWR NEM, that flight tracks be positioned over compatible land use. This measure is consistent with such public requests.

FAA Action: APPROVED AS VOLUNTARY. Analysis contained within the NCP (Text, page 2-23, and Tables 2-10 and 2-11 on page 2-27) demonstrates that this measure currently reduces the number of residential units within the DNL 65 dB contour by 1,146 in comparison to a departure on runway heading. Further, this measure results in a net reduction of one noise sensitive site within the DNL 65 dB contour in comparison to a departure on runway heading. Inclusion of these analytical results is presented as the basis upon which the decision was made, as it demonstrates that implementation of the measure leads to noise reduction. Further, approval of this measure does not commit the FAA or Port Authority to achieving the assumptions used for modeling as a target of implementation of the measure. Use of the procedures is subject to Air Traffic Controller discretion based on conditions in place at the time of operation.

4. Determine and Implement Optimal Easterly Departure Headings on Runways 4L and 4R (Page 2-29)

Description: Turning Runways 4L and 4R departing aircraft to an easterly heading of 60° is shown to be effective in reducing non-compatible land use (see Noise Abatement Measure 2). The Port Authority analyzed the potential noise benefit of increasing the turn after departure on Runways 4L and 4R to more easterly headings. The analysis indicated that the greater the turn to an easterly heading (e.g. 65- or 70°), the fewer people exposed to noise in the 65 DNL and higher contours. The FAA has noted during development of the measure that there is a limit to how far east aircraft can be directed before they conflict with LGA traffic because the LGA airspace is to the east of EWR. This measure is proposing that the FAA continue to work to determine the easternmost heading they can safely direct aircraft without conflicting with LGA traffic. The results of this additional analysis will lead to the identification of the optimal easterly heading for aircraft departing Runway 4L and 4R for noise abatement purposes.

FAA Action: FAA Action: NO ACTION REQUIRED AT THIS TIME. This measure relates to flight procedures under Title 49 U.S.C. § 47504(b). This measure is under further review by FAA's Air Traffic Organization, including EWR Air Traffic Control Tower and New York Terminal Radar Approach Control specialists regarding impacts to operational safety, in accordance with 14 CFR Part 150.35(a). It is anticipated that an additional 180 days will be required to complete this review and a Supplemental Record of Approval with FAA's final decision on this proposed measure will be issued on or before August 14, 2023.

5. Determine and Implement Optimal Easterly Departure Headings on Runways 22L and 22R (Page 2-31)

Description: Turning Runways 22L and 22R departing aircraft to an easterly heading of 190° is shown to be effective in reducing non-compatible land use (see Noise Abatement Measure 3). The Port Authority analyzed the potential noise benefit of increasing the turn after departure on Runways 22L and 22R to more easterly headings. The analysis indicated that the greater the turn to an easterly heading (e.g. 185- or 180°), the fewer people exposed to noise in the 65 DNL and higher contours. The FAA has noted during development of the measure that there is a limit to how far east aircraft can be directed before they conflict with LGA traffic because the LGA airspace is to the east of EWR. This measure is proposing that the FAA continue to work to determine the easternmost heading they can safely direct aircraft without conflicting with LGA traffic. The results of this additional analysis will lead to the identification of the optimal easterly heading for aircraft departing Runway 22L and 22R for noise abatement purposes.

FAA Action: DISAPPROVED. Procedures that would need to be developed to achieve the intended result of this measure would cause operational conflicts for other aircraft operating in adjacent airspace sectors dedicated to LaGuardia operations, creating potential unsafe operating environments and loss of required separation. Specifically, FAA Order 7110.65, Air Traffic Control requires at least 3NM or 1000' separation between Instrument Flight Rules (IFR) aircraft. This separation standard would not be guaranteed (also known as loss of positive control) with a departure turn to a greater than the current turn to 220°, which presents a safety risk to the National Airspace System (NAS). Implementation of this measure would not meet necessary approval criteria established by 14 CFR Part 150.35(b)(3)(ii) and (iii).

6. Encourage Use of FAA-prescribed Distant Noise Abatement Departure Profile Procedures on a Voluntary Basis (Page 2-33)

Description: This NCP measure involves the voluntary implementation of noise abatement departure profiles (NADPs), which are aircraft climb-out profiles that can provide noise reduction benefits. In 1993, the FAA published acceptable criteria for two safe NADPs for commercial jet aircraft: the close-in NADP, also known as NADP1, and the distant NADP, also known as NADP2 (FAA Advisory Circular [AC] 91-53A). The close-in NADP provides noise reduction benefits to areas adjacent to an airport, whereas the distant NADP provides noise reduction benefits farther from an airport.

Figure 2-6 (Page 2-34) gives a general, comparative overview of both types of NADP. The NADPs outline criteria for speed, thrust settings, and airplane configurations used in connection with each NADP. The designs of NADPs and their frequencies of use are specific to individual aircraft operators and aircraft types. Airport operators cannot mandate the use of NADPs at an airport because airport operators do not have the authority to require specific operating profiles for aircraft in flight. Implementation of NADPs is voluntary and at the choice of aircraft operators; however, FAA AC 91-53A encourages aircraft operators "to use the appropriate NADP when an airport operator requests its use to abate noise for either a close-in or distant community."

FAA Action: DISAPPROVED FOR PURPOSES OF PART 150. Documentation provided in support of this measure by the Port Authority did not include analysis comparing implementation of the measure to the accepted NEM for EWR, rather it included a comparative analysis of implementation of potential NADP 1 and NADP 2 procedures at EWR. FAA does not concur with the Port Authority's statements in the NCP that an analysis comparing implementation of the measure to the accepted NEM cannot be done. Accordingly, the NCP does not show that implementation of this measure would reduce non-compatible land use within the 65 dB DNL contour, in accordance with 14 CFR Part 150.23(e)(5) and 150.35(a). A future update to the NCP addressing the analytical deficiency identified may result in the FAA reconsidering the decision for this measure. Disapproval of this measure for purposes of Part 150 does not prevent the Port Authority from pursuing further implementation of this measure outside of the Part 150 context.

7. Minimize Nighttime Intersection Departures (Page 2-41)

Description: At EWR, it is a standard operating procedure for aircraft to depart Runways 22L, 22R, and 29 at taxiway intersections. These taxiways provide access to the longest runway departure point without having to cross an active runway. Intersection departures allow for greater operational safety and efficiency of the airfield since aircraft do not have to cross an active runway, which reduces taxi times for some operations. This measure would reduce the number of nighttime intersection departures on Runway 22L and Runway 22R and increase the number of nighttime departures that use the full length of the runway. If ATCT directed aircraft currently using Runway 22L and 22R intersection departures to use the full length of the runway for departures instead, the aircraft would be at higher altitudes in the neighborhoods south of the airport. This would also mean that aircraft could turn toward the easterly

heading sooner, which would better avoid the residential areas. A reduction of intersection departures at night may reduce noise exposure, particularly in the City of Elizabeth neighborhoods to the south of EWR.

The Port Authority recognizes that during the daytime when the airfield is busy, eliminating intersection departures would cause delays and may compromise operational efficiency and safety. As such, this measure focuses on minimizing intersection departures only during nighttime hours since this measure is potentially easier to implement during the night rather than during daytime hours since the traffic volume is lower and communities are most affected by noise from aircraft operations during nighttime hours.

FAA Action: PARTIALLY APPROVED AS VOLUNTARY AND PARTIALLY DISAPPROVED. Removal of intersection departures for Runways 22L and 29 at night can be considered under future Port Authority implementation of this measure; however, removal of intersection departures for all aircraft operating on Runway 22R can not be further considered. Newark Air Traffic Control Tower utilizes the intersection of Taxiway W as the standard departure point when operating on a southwest flow. By using Taxiway W as the standard departure point, the facility has eliminated unnecessary runway crossings to reduce runway incursions. While on the southwest flow, Runway 11/29 is routinely utilized as a secondary runway. Requiring aircraft to cross this runway while on departure taxi, having only enough space to stage two aircraft at the full-length, and requiring another runway crossing on take-off roll for Runway 22R departures would greatly introduce risk into the system and reduce overall safety. However, the full-length of Runway 22R would remain available if requested for aircraft operational performance needs and in accordance with current practice. Implementation of this measure would not meet necessary approval criteria established by 14 CFR Part 150.35(b)(3)(ii) and (iii).

Analysis contained within the NCP (Text, page 2-41, and Tables 2-18 and 2-19 on page 2-47) demonstrates that this measure could reduce the number of residential units within the DNL 65 dB contour by 71 if all nighttime intersection departures began takeoff rolls at the ends of the respective runways instead. This measure could also result in a net reduction of one eligible noise sensitive site within the DNL 65 dB contour. Inclusion of these analytical results is presented as the basis upon which the decision was made, as it demonstrates that implementation of the measure leads to noise reduction. Further, approval of this measure does not commit the FAA or Port Authority to achieving the assumptions used for modeling as a target of implementation of the measure, given the partial approval. Use of the procedures is subject to Air Traffic Controller discretion based on conditions in place at the time of operation.

8. Implement a Nighttime Preferential Runway Use Program (Page 2-49)

Description: Preferential runway use programs distribute aircraft operations among the available runways at a particular airport. ATCT will take into account various factors to determine runway usage. These factors include, but are not limited to, runway availability, prevailing wind and weather patterns, runway length requirements, operational efficiency, and community noise concerns. Navigational aids and published arrival and departure procedures are also factors in runway selection. Because there are multiple airports in close proximity to EWR, modifying EWR runway selection is likely to adversely impact operations at other airports, so the ability to implement preferential runway use at all times is limited.

There are areas of compatible land use around EWR, particularly to the east of the airport, which aircraft could be routed over through the use of a preferential runway use program to reduce noise exposure on non-compatible land use. If nighttime operations can depart from Runway 29 as opposed to the parallel runways (Runway 4L/22R and Runway 4R/22L), it is possible to improve land use compatibility over current conditions. This measure proposes developing a Preferential Runway Use Program at EWR that includes the following: 1) increasing arrivals to Runway 29 at night; 2) increased usage of Runway 4R/22L for departures because that runway is slightly further from residential areas than Runway 4L/22R; and 3) Runway 22L nighttime arrivals use the offset approach, if implemented, (see Noise Abatement Measure 1) as part of a preferential nighttime runway use program.

FAA Action: APPROVED AS VOLUNTARY. Analysis contained within the NCP (Text, page 2-49, and Table C.5-2 on page C-48) demonstrates that this measure could reduce the number of residential units within the DNL 65 dB contour by up to 3,401 depending on which measures are included in a Nighttime Preferential Runway Use Program and the degree to which they are implemented. Inclusion of these analytical results is presented as the basis upon which the decision was made, as it demonstrates that implementation of the measure leads to noise reduction. Further, approval of this measure does not commit the FAA or Port Authority to achieving the assumptions used for modeling as a target of implementation of the measure. Approval of this measure is acknowledging that the FAA will continue to work with the Port Authority to develop the specifics of the Nighttime Preferential Runway Use Program that can be safely followed at EWR. Larger & heavier aircraft will not be able to accept Runway 29 for arrival due to its shorter length. Additionally, Runway 29 does not have instrument approach capabilities and will not be used in lower visibility conditions. Use of the procedures is subject to Air Traffic Controller discretion based on conditions in place at the time of operation.

9. Implement Nighttime Optimized Profile Descent Procedures (Page 2-51)

Description: An Optimized Profile Descent (OPD) is an approach procedure that allows the aircraft to descend from altitude to the runway threshold with minimal engine thrust and minimal changes to such settings. OPDs direct aircraft to descend to the runway with the minimal amount of engine power needed to safely land the aircraft. Hold-downs that require high power settings for the level flight segments with traditional arrival procedures are generally eliminated. This results in less noise being heard on the ground. An OPD has several benefits including: less communication between the FAA and the pilot; less maneuvering of the aircraft by the pilot; less fuel consumption resulting in fewer emissions of air pollutants; and less noise.

Because of the busy and complex nature of the New York/New Jersey/Philadelphia airspace, aircraft are, by FAA procedures to safely manage the air traffic, held at continuous altitudes (known as “hold-downs”) for extended periods (or distances) in order to maintain aircraft separation as they arrive EWR. OPDs are being recommended only during nighttime hours, given that the airspace is much less busy during the nighttime. Aircraft on an OPD are generally configured with flaps and landing gear, airspeed, and approach angle prior to five miles from the runway. mostly benefiting areas outside of the 65 DNL contour. The hold-downs mentioned above are also outside the 65 DNL contour. Therefore,

FAA Action: DISAPPROVED FOR PURPOSES OF PART 150. Documentation provided in support of this measure by the Port Authority did not include analysis demonstrating that implementation of this measure would reduce non-compatible land use within the 65 dB DNL contour, in accordance with 14 CFR Part 150.23(e)(5) and 150.35(a). Further, the text of the measure itself states, "eliminating the hold-downs would not result in a reduction of non-compatible land use" and that the measure would "mostly benefit…areas outside of the 65 DNL contour." A future update to the NCP demonstrating benefit to non-compatible land use within the DNL 65 dB contour may result in the FAA reconsidering the decision for this measure. Disapproval of this measure for purposes of Part 150 does not prevent the Port Authority from pursuing further implementation of this measure outside of the Part 150 context.

10. Implement Nighttime Unlimited Climb Procedures (Page 2-53)

Description: Unlimited climb refers to the aircraft continuing to ascend after takeoff without restrictions, such as FAA-required hold-downs to maintain separation standards of aircraft for the multitude of aircraft operations in the New York/New Jersey/Philadelphia airspace. Similar to OPDs, unlimited climb procedures have multiple benefits including: less communication between the FAA and the pilot; less maneuvering of the aircraft by the pilot; less fuel consumption resulting in fewer air emissions; and less noise due to the elimination of level-off segments resulting in aircraft being at higher altitudes during their climb. Because of the busy and complex nature of the New York/New Jersey/Philadelphia airspace, aircraft are held at a continuous altitude (known as "hold-downs") for extended periods in order to maintain aircraft separation as they depart EWR.

FAA Action: DISAPPROVED FOR PURPOSES OF PART 150. Documentation provided in support of this measure by the Port Authority did not include analysis demonstrating that implementation of this measure would reduce non-compatible land use within the 65 dB DNL contour, in accordance with 14 CFR Part 150.23(e)(5) and 150.35(a). Further, the text of the measure itself states, "Implementation of unlimited climb procedures at night could reduce noise exposure to residents living under EWR departure corridors outside the 65 DNL because of aircraft being higher in altitude over noise-sensitive land areas" and that the measure would "reduce noise exposure to residents living under EWR departure corridors outside the 65 DNL." A future update to the NCP demonstrating benefit to non-compatible land use within the DNL 65 dB contour may result in the FAA reconsidering the decision for this measure. Disapproval of this measure for purposes of Part 150 does not prevent the Port Authority from pursuing further implementation of this measure outside of the Part 150 context.

11. Implement Nighttime "New Jersey Turnpike" Departure Procedures for Runways 4L and 4R (Page 2-55)

Description: This measure would develop a procedure to eliminate westerly turns for all Runway 4L and 4R nighttime departing aircraft until reaching an altitude of approximately 10,000 feet above airport field elevation. Figure 2-13 on page 2-57 shows notional flight tracks that could eliminate an early westerly turn for departures for Runway 4L and 4R. Implementation of such a procedure at night could reduce noise exposure to residents by directing the aircraft to continue ascending over compatible land uses along the Turnpike for an additional short distance until reaching 10,000 feet altitude before turning west

to continue to their destinations. Aircraft would be at a higher altitude over residential areas because of a slightly later turn. While this could reduce throughput on the parallel runways (Runway 4L/22R and Runway 4R/22L), that would be less of an issue during the nighttime when there are fewer aircraft operations.

Port Authority recommends this measure as long as the procedure can be combined with other noise abatement procedures presented in this NCP Report or developed in a way that does not lead to an increase of people or dwelling units inside the 65 DNL contour.

FAA Action: DISAPPROVED FOR PURPOSES OF PART 150. Documentation provided in support of this measure by the Port Authority demonstrates that implementation of this measure would increase the number of residential units within the DNL 65 dB contour by up to 28. Accordingly, the NCP does not show that implementation of this measure would reduce non-compatible land use within the 65 dB DNL contour, in accordance with 14 CFR Part 150.23(e)(5) and 150.35(a). A future update to the NCP containing a revised procedure demonstrating benefit to non-compatible land use within the DNL 65 dB contour may result in the FAA reconsidering the decision for this measure. Disapproval of this measure for purposes of Part 150 does not prevent the Port Authority from pursuing further implementation of this measure outside of the Part 150 context.

12. Implement Nighttime "New Jersey Turnpike" Departure Procedures for Runways 22L and 22R (Page 2-63)

Description: This measure would develop a procedure to eliminate westerly turns for all runway 22L and 22R nighttime departing aircraft until reaching an altitude of approximately 10,000 feet above airport field elevation. Figure 2-15 on page 2-65 shows notional flight tracks that could eliminate an early westerly turn for departures for Runway 22L and 22R. Implementation of such a procedure at night could reduce noise exposure to residents by directing the aircraft to continue ascending over compatible land uses along the Turnpike for an additional short distance until reaching 10,000 feet altitude before turning west to continue to their destinations. Aircraft will be at a higher altitude over residential areas because of a slightly later turn. While this could reduce throughput on the parallel runways (Runway 4L/22R and Runway 4R/22L), that would be less of an issue during the nighttime when there are fewer aircraft operations.

FAA Action: FAA Action: NO ACTION REQUIRED AT THIS TIME. This measure relates to flight procedures under Title 49 U.S.C. § 47504(b). This measure is under further review by FAA's Air Traffic Organization, including EWR Air Traffic Control Tower and New York Terminal Radar Approach Control specialists regarding impacts to operational safety, in accordance with 14 CFR Part 150.35(a). It is anticipated that an additional 180 days will be required to complete this review and a Supplemental Record of Approval with FAA's final decision on this proposed measure will be issued on or before August 14, 2023.

13. Continue Existing Mandatory Departure Noise Limit (Page 2-71)

Description: The Port Authority has pursued aircraft noise abatement measures for several decades. In 1959, the Port Authority established a mandatory aircraft departure noise limit of 112 PNdB for aircraft

departures at EWR. Operators of aircraft that violate the departure noise limit at EWR are contacted by the Port Authority and notified of the violation. The existing monitoring system at EWR, which currently consists of three monitors, supports the Port Authority's enforcement of this departure noise limit. The departure noise limit is a measure that was established before such measures were restricted by the Airport Noise and Capacity Act (ANCA) in 1990. The Port Authority is recommending continuation of the existing departure noise limit, with no changes, to continue restricting operational activity that violates the limit. This provides benefits to communities in the vicinity of EWR.

FAA Action: NO ACTION. This measure was in place prior to ANCA and is not subject to review under 14 CFR Part 161. It is the continuance of a pre-existing practice at EWR.

LAND USE MEASURES (NCP Section 3)

1. Sound-Insulate Eligible Dwelling Units (Page 3-5)

Description: The Port Authority is proposing to provide sound insulation for eligible residential dwelling units within the DNL 65 dB contour. Types of dwelling units include, but are not limited to, single-family units, multi-family units (up to and including high-rise apartment buildings), and mixed-use structures with retail on the ground floor and residential units above. Sound insulation programs provide compatible noise environments inside structures as a means to mitigate aircraft noise exposure. Sound insulation treatments may include window and door replacement, caulking, weather stripping, and positive air ventilation. Positive ventilation systems use a fan to draw outside air into an indoor space, pressurizing the space. Indoor air is exhausted out of the building through sound-insulated exterior openings. Ventilation-only treatments are limited to structures where positive ventilation does not already exist.

The goal of sound insulation under 14 CFR Part 150 is to provide an average interior DNL of 45 dB or below and to provide at least a 5 dB improvement to the noise level reduction of the structure. Based on the experience of other airports' residential sound insulation programs, sound insulation is effective in reducing interior noise exposure and has a high level of satisfaction among dwelling unit occupants.

In residential sound insulation programs funded, in part, by FAA Airport Improvement Program (AIP) grants, a dwelling unit is eligible for sound insulation only if it meets all of the criteria set forth in FAA Order 5100.38D, Airport Improvement Program Handbook (AIP Handbook), Appendix R. To be eligible, the dwelling unit must meet the following criteria:

1. It must be located within the DNL 65 dB contour of an FAA-accepted NEM.

2. It must have been constructed before publication of FAA-accepted DNL contours. Dwelling units constructed in the vicinity of EWR after January 15, 2019, are not eligible for federally funded sound insulation.

3. It must be in compliance with the local building code.

4. It must have an average noise level in habitable rooms above DNL 45 dB (with windows closed).

The FAA also has discretion to fund sound insulation for dwelling units located in structures that contain a mix of residential and commercial uses (e.g., buildings with retail on the first floor and apartments in upper floors). In addition, a modular structure that has a noise-sensitive use may be eligible for federally funded sound insulation if the structure is permanent and meets the building requirements for non-modular structures, as given in Appendix R of the AIP Handbook.

The following dwelling units may be eligible for federally funded positive ventilation systems in addition to or in lieu of residential sound insulation:

- Dwelling units that qualify for sound insulation and do not have existing positive ventilation systems

- Dwelling units that do not qualify for sound insulation and do not have existing positive ventilation yet require it so that exterior doors and windows can be kept closed to obtain the noise-level reduction required for compatibility

Dwelling units that do not have positive ventilation systems and are determined to be eligible for federally funded positive ventilation systems would be divided into two groups:

- Existing interior noise exposure of at least DNL 45 dB

- Existing interior noise exposure below DNL 45 dB, but only with having all exterior doors and windows closed

In exchange for accepting sound insulation under EWR Land Use Measure 1, the Port Authority is requiring the property owner to provide to the Port Authority an avigation easement. An avigation easement is a conveyance of airspace over property for use by an airport. The property owner has restricted use of their property subject to the airport sponsor's easement for overflight and other applicable restrictions on the use and development of the parcel. Avigation easements run with the land (i.e., are attached to the property for as long as the easement is in effect). Therefore, an avigation easement binds future property owners and informs them of the property's exposure to aircraft noise while also restricting use of the parcel as described in the avigation easement.

FAA Action: APPROVED. This measure could potentially benefit 10,066 dwelling units and 23,626 people located in the DNL 65 dB contour, excluding block rounding and neighborhood equity, based on the accepted EWR NEM. This number is only a representation of structures located within the currently accepted NEM and may change either due to structures not meeting all requirements for program eligibility as discussed in the NCP (Pages 3-5 through 3-8) or due to a change to the DNL 65 dB contour itself on a future updated NEM submission. Prior to the start of the Sound Insulation Program (SIP), the Port Authority shall develop a policy and procedure manual (PPM) to guide SIP implementation and an acoustical testing protocol (ATP). The PPM should outline SIP objectives and priorities, community outreach process, identify and define boundaries for eligible structures, including proposals for treatment of neighborhood equity and block rounding (in accordance with Appendix R of the AIP Handbook) and the

suggested avigation easement language. The ATP outlines the acoustical testing process to ensure the acoustical testing or residential structures is conducted accurately and efficiently. The ATP shall be provided to FAA for review and concurrence.

Approval of this measure is not a commitment of future federal funding under any grant-in-aid program administered by the FAA. Final determinations regarding eligibility and funding will be made at such time the Port Authority submits requests for federal financial assistance and will be dependent upon the accepted NEM at the time the request is submitted, provided the NEM can be validated for currency.

2. Sound-Insulate Eligible Non-Residential Noise-Sensitive Structures (Page 3-10)

Description: The Port Authority is proposing to provide sound insulation for eligible non-residential noise-sensitive structures within the DNL 65 dB contour. Non-residential noise-sensitive structures include public use facilities such as schools, places of worship, libraries, daycares, and transient lodging. Sound insulation programs provide compatible noise environments inside structures to mitigate aircraft noise exposure. Sound insulation treatments may include window and door replacement, caulking, weather stripping, and positive air ventilation.

The purpose of sound insulation is to provide an average interior DNL of 45 dB or below and to provide at least a 5 dB improvement to the noise level reduction of the structure with the installation of the treatments. All eligibility requirements in Appendix R of the AIP Handbook must be met.

In non-residential sound insulation programs funded in part by FAA AIP grants, a non-residential noise-sensitive structure is eligible for sound insulation only if it meets all of the criteria set forth in the AIP Handbook, Appendix R. To be eligible, the structure must meet the following criteria:

1) It must be located within the DNL 65 dB contour of an FAA-accepted NEM.

2) It must have been constructed before publication of FAA-accepted DNL contours. In the case of EWR, FAA-accepted DNL contours were first made available to the public on January 15, 2019. Therefore, structures constructed in the vicinity of EWR after January 15, 2019, are not eligible for federally funded sound insulation.

3) It must be in compliance with the local building code.

4) It must have an average noise level in habitable rooms above DNL 45 dB (with windows closed).

According to Table C-5 of the AIP Handbook, the FAA may not authorize the installation of sound insulation for structures with non-residential noise-sensitive land uses that are located in temporary commercial facilities (e.g., a house of worship or day care facility under lease in a retail/commercial facility).

The following structures may be eligible for federally funded positive ventilation systems in addition to or in lieu of structural sound insulation:

- Structures that qualify for sound insulation and do not have existing positive ventilation systems

- Structures that do not qualify for sound insulation and do not have existing positive ventilation yet but require it so that exterior doors and windows can be kept closed to obtain the noise-level reduction required for compatibility

Structures that do not have positive ventilation systems and are determined eligible for federally funded positive ventilation systems would be divided into two groups:

- Existing interior noise exposure of at least DNL 45 dB

- Existing interior noise exposure below DNL 45 dB, but only with having all exterior doors and windows closed

The 2024 Accepted NEM DNL 65 dB contour includes five schools that did not receive sound insulation treatments during previous Port Authority sound insulation programs, 32 places of worship, and one library, for a total of 38 non-residential noise-sensitive structures within the DNL 65 dB contour. Table 3-3 on page 3-12 of the NCP lists the names and locations of all 38 non-residential noise-sensitive structures proposed for inclusion in this measure. The 2024 Accepted NEM DNL 65 dB contour also includes five schools that previously received sound insulation treatments during previous Port Authority sound insulation programs; the Port Authority does not propose these schools for inclusion in this measure. No day care facilities or transient lodging are proposed for inclusion in this measure.

FAA Action: APPROVED. This measure could potentially benefit users and attendees of these 38 non-compatible noise-sensitive structures located in the DNL 65 dB contour based on the accepted EWR NEM. This approval is for structures located within the currently accepted NEM identified in Table 3-3 on Page 3-12 of the NCP and may change either due to structures not meeting all requirements for program eligibility as discussed in the NCP (Pages 3-5 through 3-8 and 3-10 through 3-11) or due to a change to the DNL 65 dB contour itself on a future updated NEM submission. Additionally, eligibility of non-residential noise-sensitive structures located in commercial structures will be evaluated on a case-by-case basis. Prior to the start of the SIP, the Port Authority shall develop a PPM to guide SIP implementation and an ATP. This PPM and ATP for these 38 non-residential noise-sensitive structures can be combined with the PPM and ATP for residential structures identified in the approval of Land Use Measure 1 and shall be provided to FAA for review and concurrence.

Approval of this measure is not a commitment of future federal funding under any grant-in-aid program administered by the FAA. Final determinations regarding eligibility and funding will be made at such time the Port Authority submits requests for federal financial assistance and will be dependent upon the accepted NEM at the time the request is submitted, provided the NEM can be validated for currency.

3. Port Authority Assistance with Establishing an Airport Noise Overlay Zone (Page 3-14)

Description: Airport noise overlay zones are intended to prevent non-compatible land uses from being developed near an airport. The noise overlay zone works in tandem with the local jurisdictions' existing zoning and provides detailed information regarding the land uses allowable within the overlay zone, such as noise level reduction required for noise- sensitive structures. If the overlay zone allows for non-

compatible land uses, such as residential, schools and churches, then the overlay zone will also include specific building codes to ensure compatibility and the addition of avigation easements. These specific codes are generally more stringent than standard building codes, but similar to the existing codes required for energy conservation purposes.

Land use control agencies within the jurisdictions showed interest in establishing airport noise overlay zones to assist in better land use compatibility with aircraft operations. The following land use jurisdictions expressed interest in an overlay zone: New Jersey Sports and Exposition Authority, Union County, City of Elizabeth, Hudson County, Town of Harrison, City of Newark, Essex County, and City of Linden.

Using the forecast NEM as the basis, the Port Authority could provide information to each local jurisdiction responsible for land use zoning designations in developing an airport noise overlay zone that would achieve the land use zoning goals of that community.

FAA Action: APPROVED. The decision whether to pursue such a policy is an issue for government entities responsible for land use planning or real estate transactions to decide. The Port Authority should work directly with any state and/or local governments that wish to develop this preventive land use measure using the Accepted 2024 NEM as the initial basis. Approval of this measure is not a commitment of future federal funding under any grant-in-aid program administered by the FAA. Final determinations regarding eligibility and funding will be made at such time the Port Authority submits requests for federal financial assistance.

PROGRAM MANAGEMENT MEASURES (NCP Section 4)

1. Maintain Noise Office (Page 4-4)

Description: The Port Authority is proposing to continue to operate the Noise Office, which is a vital link between the Airport and communities on aircraft noise concerns. Following issuance of this Record of Approval, the Port Authority's Noise Office's responsibilities will expand to include implementation of the recommended NCP measures and monitoring adherence with the implemented noise abatement measures. It is possible that the Port Authority may need additional staff resources in the Noise Office to adequately address the increased responsibilities that come with the implementation and monitoring of NCPs at four airports simultaneously.

FAA ACTION: APPROVED. Implementation of this continued measure is considered to be within the authority of the Port Authority of New York and New Jersey.

2. Maintain Noise and Operations Management System (Page 4-5)

Description: The Port Authority is proposing to continue use of the Noise and Operations Management System (NOMS), which supports the investigation of noise complaints as well as communication with the public about the noise environment associated with EWR. The Airport NOMS (ANOMS) also retains historical data so that noise and operational trends can be determined. Maintenance of the NOMS will

enable the Port Authority to investigate noise complaints and provide a means to monitor adherence to NCP noise abatement measures for EWR. Of the three noise monitors in the current EWR NOMS, two are located within the Accepted 2024 NEM DNL 65 contour.

FAA ACTION: APPROVED. The Port Authority may seek to maintain and/or replace existing noise monitors. Only noise monitors within the accepted NEM at the time of any potential funding requests would be eligible for federal funding for replacement if all other eligibility criteria are met. Approval of this measure is not a commitment of future federal funding under any grant-in-aid program administered by the FAA. Final determinations regarding eligibility and funding of future upgrades will be made at such time the Port Authority submits requests for federal financial assistance.

3. Maintain Public Flight Tracking Portal (Page 4-6)

Description: The existing public flight tracking portal is an internet-based system that allows the public to view aircraft movements in the New York/New Jersey area via a website. The existing portal provides aircraft locations and noise monitor values for current and historical operations at EWR and is used to post information about runway closures. The flight tracking portal provides a public interface for the Port Authority's NOMS and is therefore a key communication and educational tool used by the Noise Office. The Port Authority is proposing to continue use of this system.

FAA ACTION: APPROVED. Approval of this measure is not a commitment of future federal funding under any grant-in-aid program administered by the FAA. Final determinations regarding eligibility and funding will be made at such time the Port Authority submits requests for federal financial assistance and will be dependent upon the accepted NEM at the time the request is submitted, provided the NEM can be validated for currency.

4. Maintain Noise Complaint Management System (Page 4-7)

Description: The existing noise complaint management system is used by the Port Authority to collect and manage noise complaint information from each of the airports in its system. The Port Authority provides noise complaint reports to the FAA on a quarterly basis for informational purposes. The use of a noise complaint management system enables the Noise Office to efficiently respond to noise complaints and gain insights from noise complaint data. The Port Authority is proposing to continue use of this system.

FAA ACTION: APPROVED. Implementation of this continued measure is considered to be within the authority of the Port Authority of New York and New Jersey. Approval of this measure is not a commitment of future federal funding under any grant-in-aid program administered by the FAA. Final determinations regarding eligibility and funding will be made at such time the Port Authority submits requests for federal financial assistance and will be dependent upon the accepted NEM at the time the request is submitted, provided the NEM can be validated for currency.

5. Maintain Noise Office Website (Page 4-8)

Description: The Port Authority's Noise Office website provides links to submit a noise complaint, public flight tracking portal, noise monitoring, data reports, and airport community roundtables. The noise

information website also contains a link to a central web page for each of the Port Authority's four 14 CFR Part 150 Studies. Thus, the Noise Office website serves as a single point of entry to all of the publicly available information and services provided by the Noise Office. The Port Authority is proposing to continue use of this website.

FAA ACTION: APPROVED. Implementation of this continued measure is considered to be within the authority of the Port Authority of New York and New Jersey.

6. Continue Community Outreach Activities (Page 4-9)

Description: The Port Authority facilitated the development of the Airport Community Roundtable for EWR, in collaboration with the FAA and representatives of nearby communities. The EWR Roundtable meets on an as-needed basis to provide ongoing communication with the Port Authority and the FAA, seeking mutual and feasible ways to manage aircraft noise concerns. The Noise Office leverages these types of in-person outreach activities to support and maintain meaningful dialogue with communities, the FAA, and other aviation stakeholders regarding aircraft noise. This measure proposes to continue Port Authority support of the EWR Airport Community Roundtable.

FAA ACTION: APPROVED. Implementation of this continued measure is considered to be within the authority of the Port Authority of New York and New Jersey.

7. Establish a Community Planners Forum (Page 4-10)

Description: The Port Authority recommends initiating a Community Planners Forum that will bring together land use planners and local zoning jurisdictions responsible for land use planning in the vicinity of the airport. The Port Authority would provide the venue for this voluntary forum to allow for the sharing and dissemination of aircraft noise related information pertaining to comprehensive planning, land use issues, zoning issues, and noise mitigation efforts by the local jurisdictions. The goal of this measure is to provide a forum for land use planning agencies and zoning jurisdictions to be made aware of aircraft noise related information relating to comprehensive planning, land use issues, zoning issues, and noise mitigation efforts at EWR.

FAA ACTION: APPROVED. Implementation of this continued measure is considered to be within the authority of the Port Authority of New York and New Jersey.

8. Establish and Manage a Fly Quiet Program (Page 4-13)

Description: The Port Authority recommends initiating a voluntary Fly Quiet Program for EWR to develop solutions for abating noise from aircraft operations. A Fly Quiet Program is a voluntary collaboration among the airport proprietor, airlines, and air traffic controllers that encourages pilots and air traffic controllers to use noise abatement flight procedures, NADPs, and preferential runways. It also typically includes an airline/pilot awareness campaign with promotional materials to ensure pilots know about the recommended noise abatement procedures at the Airport.

The Fly Quiet Program would be used to facilitate implementation of recommended noise abatement measures approved by the FAA. The Fly Quiet Program would also be used as a forum for developing and discussing noise abatement measures that may provide benefits outside of the 14 CFR Part 150 process. The Fly Quiet noise reports would be published on the Noise Office website and shared with various stakeholders including, but not limited to, the FAA, EWR Roundtable members, land use planners, and airlines.

FAA Action: APPROVED AS VOLUNTARY. Use of any procedure, including those that would be the subject of a Fly Quiet Program, is subject to Air Traffic Controller discretion based on operating conditions in place at the time of aircraft operation. Further, approval of this measure is not a commitment of future federal funding under any grant-in-aid program administered by the FAA. Final determinations regarding eligibility and funding will be made at such time the Port Authority submits requests for federal financial assistance and will be dependent upon the accepted NEM at the time the request is submitted, provided the NEM can be validated for currency.

9. Make Aircraft Noise Contours Available in a Geographic Information System (GIS) (Page 4-12)

Description: An interactive NEM (presenting DNL 65 dB and higher contour lines) can provide the public, land use planning agencies, and other stakeholders with easy access to an airport's noise contours to enhance awareness and decision-making regarding aircraft noise. This measure would involve the Port Authority providing a Google Earth file (or other readily useable file) of the Accepted EWR 2024 DNL 65, 70, and 75 dB contours to the public for download. The Port Authority could also host a map on its Noise Office website that would include these GIS layers as a downloadable file containing noise contour shapes for easy viewing by interested parties.

Interactive noise contour maps for EWR were developed as part of this Study. Those maps allow users to determine whether their residence or any other noise-sensitive building is within or outside of the DNL 65 dB contours. They were favorably received when showcased at the EWR draft NEM workshops and subsequently posted for public access on the EWR 14 CFR Part 150 website. It is the Port Authority's intention to maintain public access to these maps. The Port Authority will also provide the Accepted 2024 NEM DNL 65 dB contour to the local planning agencies with land uses within the contour boundary.

FAA ACTION: APPROVED. Implementation of this continued measure is considered to be within the authority of the Port Authority of New York and New Jersey.

10. Update the Noise Exposure Map (Page 4-13)

Description: The FAA requires that an airport operator maintain NEMs that reflect current or reasonably projected conditions in order to obtain FAA funding for noise programs. Specifically, 14 CFR Part 150.21(d), states that an airport operator shall "promptly prepare and submit a revised noise exposure map" if any change in the operation of the airport creates a "substantial, new non-compatible use" or a "significant reduction in noise over existing non-compatible uses" that is not reflected on the FAA-accepted NEM on record. The former condition reflects an increase of DNL 1.5 dB in terms of the DNL over non-compatible uses or over uses that are made non-compatible by the noise increase, while the latter condition reflects

a reduction of DNL 1.5 dB over uses that were formerly non-compatible but are made compatible by the noise reduction.

Consistent with Part 150 requirements, the Port Authority will evaluate any changes in the noise environment at EWR and notify the FAA whether they believe the NEM continues to be a reasonable representation of current and/or forecast conditions at EWR or submit an updated NEM to the FAA for acceptance. The Port Authority anticipates updating the NEMs when operations at EWR stabilize as the aviation sector continues to recover from the COVID-19 pandemic.

FAA ACTION: APPROVED. The FAA retains discretion to evaluate and determine currency of the NEMs based on information submitted by the Port Authority so long as the Port Authority continues to seek federal funding for implementation of measures approved under 14 CFR Part 150. Approval of this measure is not a commitment of future federal funding under any grant-in-aid program administered by the FAA. Final determinations regarding eligibility and funding will be made at such time the Port Authority submits requests for federal financial assistance to update the NEMs.

11. Update the Noise Compatibility Program (Page 4-14)

Description: 14 CFR Part 150.23(e)(9), states that NCPs must include a "[p]rovision for revising the program if made necessary by revision of the noise exposure map." This may occur if a significant change is identified that results in a revision to the NEMs. Examples of changes are a large addition of non-compatible land uses, or new elements required to achieve land use compatibility. The NCP does not require an update with each NEM update. The Port Authority proposes updating the NCP only when additional measures and/or modified measures are required to reduce non-compatible land use in accordance with an updated NEM.

FAA ACTION: APPROVED. The FAA retains discretion to recommend updates to the NCP as a whole or to individual measures at such time that revised NEMs are submitted by the Port Authority and so long as the Port Authority continues to seek federal funding for implementation of measures approved under 14 CFR Part 150. Approval of this measure is not a commitment of future federal funding under any grant-in-aid program administered by the FAA. Final determinations regarding eligibility and funding will be made at such time the Port Authority submits requests for federal financial assistance to update the NCP.

12. The Port Authority to Coordinate with the FAA on Development and Implementation of NextGen Procedures (Page 4-15)

Description: The FAA's NextGen implementation involves managing flight procedures for numerous airports in the region and is not specific to EWR. The Port Authority is a member of the NextGen Advisory Committee (NAC), a federal advisory committee that makes recommendations to the FAA regarding the possible implementation of NextGen in the New York/New Jersey/Philadelphia airspace; this includes air traffic and airspace management recommendations. As a collaborating member of the NAC, the Port Authority can advance measures for further FAA evaluation by either directly engaging with the FAA's NY Terminal Radar Approach Control (TRACON) or submitting measures to the NAC for its consideration. This measure proposes the continuation of the Port Authority's role on the NAC and to consider dispersal

headings or other lateral track variations pursuant to Section 175 of the FAA Reauthorization Act of 2018 when the FAA is evaluating new or amended area navigation departure procedures under NextGen.

FAA ACTION: APPROVED.