

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION CATEGORICAL EXCLUSION
DECLARATION**

**Boston Logan Airport (BOS) RNAV (GPS) RWY 4L Procedure and
BOS RNAV (GPS) RWY 4R Amendment (side-step)**

The Federal Aviation Administration (FAA) is preparing this Categorical Exclusion (CATEX) for the above referenced temporary procedures to ensure FAA controllers have adequate procedures to safely land arriving aircraft during the reconstruction period for Runway 4R (RWY 4R). The RWY 4R reconstruction closure reduces the availability of instrument approaches to BOS. This can substantially affect the airport's operational safety and efficiency. To address this issue, the FAA proposes to establish two temporary approach procedures: an Area Navigation (RNAV) approach to RWY 4 Left (4L) and a "side-step" maneuver to the RNAV approach for RWY 4R.

These two approaches will be used for approximately 105 days, from May 15, 2017, through September 1, 2017 while improvements occur on RWY 4R. These are temporary approaches and will be terminated when the construction work is complete. The temporary approach procedures are eligible for a CATEX under FAA Order 1050.1F, Environmental Impacts: Policies and Procedures.

The runway project necessitating these two proposed procedures involves pavement resurfacing of the existing runway sections. Such work is part of Massachusetts Port Authority's (Massport) ongoing program to rehabilitate pavement that is reaching the end of its useful life. The reconstruction of Runway 4R-22L (RWY 4R-22L) also provided an opportunity to address another maintenance issue at the Boston Logan International Airport (BOS). The existing wooden piers that support the RWY 4R approach lighting system are deteriorating and require repair or replacement. Given this opportunity, Massport decided to complete CATEXs and conduct both projects simultaneously. While these are independent projects, they are adjacent to each other. Completing them at the same time is cost-effective, operationally efficient and in the best interests of aviation safety.

These actions do not individually or cumulatively have a significant effect on the human environment and do not involve extraordinary circumstances. Therefore, these projects individually or cumulatively are categorically excluded.

Description of the Proposed Action:

BOS RNAV (GPS) RWY 4L: The Proposed Action includes the temporary publishing of BOS RNAV (GPS) RWY 4L procedure, not to exceed six months during RWY 4R-22L closure. Construction is anticipated from May 15, 2017, through September 1, 2017.

BOS RNAV (GPS) RWY 4R Amendment: The proposed BOS RNAV (GPS) RWY 4R Amendment will add a side-step maneuver, which will allow aircraft to land on RWY 4L during the runway construction period. This is a typical procedure used at airports throughout the National Airspace System (NAS) that provides both air traffic controllers and pilots an additional option in landing aircraft. RWYs 4R and 4L are separated by a distance of 1,500 feet between centerlines. This maneuver would begin approximately two nautical miles from the approach end of RWY 4R, then follow existing flight tracks for aircraft inbound to RWY 4L.

Purpose and Need of the Proposed Action:

The purpose of the Proposed Action is to temporarily change air traffic control procedures in order to accommodate air traffic during RWY 4R-22L construction. RNAV (GPS) Instrument Approach Procedures (IAPs) are one of several types of Performance Based Navigation (PBN) procedures, which are a key element of the FAA's Next Generation Air Transportation System (NextGen). The RNAV (GPS) IAP will provide lateral and vertical guidance, enabling continuous descent to the runway. The Proposed Action is needed to ensure safety, improve operational efficiency, and reduce flight delays during construction.

Declaration of Exclusion:

The FAA has reviewed the above referenced proposed action, and it has been determined, by the undersigned, to be categorically excluded from further environmental documentation according to FAA Order 1050.1F, Environmental Impacts: Policies and Procedures dated July 16, 2015.

Basis for this Determination:

The FAA conducted a review in accordance with policies and procedures in Department of Transportation Order 5610.1C, Procedures for Considering Environmental Impacts and FAA Order 1050.1F cited above.

The applicable CATEX is found in FAA Order 1050.1F, Paragraph 5-6.5 m.: "Short-term changes in air traffic control procedures, not to exceed six months, conducted under 3,000 feet above ground level (AGL) to accommodate airport construction."

Based on 2016 flight data, RWY 4R operations account for approximately 30% of arrivals (averaging 159 aircraft per day) during the anticipated temporary closure period.

- The FAA conducted noise modeling for the Proposed Action using the FAA's Aviation Environmental Design Tool (AEDT). The noise analysis was conducted for an average annual day using flight data from four independent one-week periods. The result of closing RWY 4R shifts flights to RWY 4L. The scenario modeled the equal use of the two proposed procedures and resulted in the following noise increases:
 - The reportable noise increase exists approximately 1.5 miles to 4 miles from touchdown on RWY 4L and represents a >5 dB noise increase in the range of 45-60 dB.
 - The significant noise increase exists approximately 0.25 miles to 1.5 miles from touchdown on RWY 4L and represents a >1.5 dB noise increase for areas where noise levels exceed 65 dB. Areas impacted are primarily over the water.
- When weather dictates the use of RWY 4L during RWY 4R construction, to mitigate noise increases the following procedures will be used in the order listed below to the extent practicable:
 - When the ceiling is at least 700 ft. and the visibility is at least 2 ½ miles;
 - RNAV (GPS) RWY 4R side-step to RWY 4L (which more similarly overflies current arrival flight paths), or
 - Alternate periodically between RNAV (GPS) RWY 4L and RNAV (GPS) RWY 4R side-step, but no more than 50% of the time flying RNAV (GPS) RWY 4L;
 - However, when the ceiling is less than 700 ft. and/or the visibility is less than 2 ½ miles, the RNAV (GPS) RWY 4L will be used.

- The Proposed Action is not expected to increase flight operations, so fuel consumption and carbon dioxide CO2 emissions are not impacted.
- Extraordinary Circumstances do not exist as defined by Order 1050.1F, Paragraph 5-2. There are no significant impacts individually or cumulatively based on the analyses. These approach procedures are temporary and will not exceed six months.
- The FAA New England Regional Administrator's office met with Representative Michael Capuano and Representative Stephen Lynch prior on March 6, 2017, and provided a project update of the CATEX for both proposed actions.
- There is no reasonable controversy over the Proposed Action's environmental impact.

Decision and Order:

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action does not require preparation of an EA or an Environmental Impact Statement in accordance with the requirements of the National Environmental Policy Act and CEQ regulations, 40 CFR 1508.4 and FAA Order 1050.1F.

I find that the action is reasonably supported, and, I, therefore, direct the FAA's BOS RNAV (GPS) RWY 4L and BOS RNAV (GPS) RWY 4R Amendment as described above, proceed forward in the implementation process.

Recommended by:

Coleman Hartigan

Date: *3/24/17*

Mr. Coleman Hartigan, Manager, Boston Consolidated TRACON

Concurrence:

Veronda Johnson

Date: March 27, 2017

Ms. Veronda Johnson, Environmental Specialist, Eastern Service Center, Operations Support Group

Approved by:

Robert K. Jones

Date: *March 27, 2017*

Mr. Robert K. Jones, District Manager, New England Terminal