

RECORD OF APPROVAL

Portland International Jetport
Portland, Maine

FAR PART 150 NOISE COMPATIBILITY PROGRAM

The Portland International Jetport (PWM) sponsored an Airport Noise Compatibility Planning Study under a Federal Aviation Administration (FAA) grant, in compliance with Federal Aviation Regulation, Part 150. PWM produced a report entitled *Portland International Jetport, Federal Aviation Regulation Part 150, Noise Exposure Map and Noise Compatibility Program Updates*. The Noise Compatibility Program (NCP) and its associated Noise Exposure Maps (NEM) were developed concurrently and submitted to FAA for review and approval on August 31, 2005. The NEM were determined to be in compliance on September 9, 2005. This determination was announced in the Federal Register on September 22, 2005 and included (1) "Figure 24, Noise Exposure Map DNL Contours for Year-2002 Operations with and without Terrain Adjustments"; (2) "Figure 26, Noise Exposure Map DNL Contours for 2007 Forecast Operations Compared to Contours for 2002 Existing Operations", and (3) "Figure 38, Noise Compatibility Program DNL Contours for 2007 Compared to 2007 NEM"; along with the supporting documentation in *Portland International Jetport, Federal Aviation Regulation Part 150, Noise Exposure Map and Noise Compatibility Program Updates, August 2005*. For purposes of the NCP, Figures 24 and 38 are being used, and are determined to be the official existing conditions and forecast conditions NEMs, respectively. The FAA has accepted the terrain adjusted NEM contour for each timeframe.

The study focused on defining an optimum set of noise and land use mitigation measures to improve compatibility between airport operations and community land use, presently and in the future. PWM's Noise Compatibility Program consists of 13 program measures, which are comprised of 5 noise abatement measures, 1 land use measure, and 7 administrative measures.

The approvals listed herein include approvals of actions that the airport recommends be taken by the FAA. It should be noted that these approvals indicate only that the actions would, if implemented, be consistent with the purposes of Part 150. These approvals do not constitute decisions to implement the actions. Later decisions concerning possible implementation of these actions may be subject to applicable environmental or other procedures or requirements. Approval does not constitute a commitment by the FAA to financially assist in the implementation of the program nor a determination that all measures covered by the program are eligible for grant-in-aid funding from the FAA. Eligibility for federal funding of measures that are determined in this Record of Approval to meet the approval criteria of 150.33 will be determined at the time the FAA receives an application for funding, using the criteria in the most current version of FAA Order 5100.38, Airport Improvement Program Handbook.

The program measures below summarize as closely as possible the airport operator's recommendations in the noise compatibility program and are cross-referenced to the program with numbered sections that follow the title of each measure. The statements contained within the summarized program measures and before the indicated FAA

approval, disapproval, or other determination, do not represent the opinions or decisions of the FAA.

Noise Abatement (NA) Measures – Measures NA-1 through NA-5 are interrelated. The navigational procedures that tighten the aircraft flight patterns over the Fore River would improve the noise environment in South Portland, but would increase noise to the Western Promenade. To offset this increase, improvement in use of the preferential runway use pattern is recommended. This results in a net decrease to overall population within the DNL 55-60 dB range of 678 people; The interdependent measures, especially the preferential runway use measure(s) which are a refinement of actions already being taken at the airport, provide a benefit to people exposed to DNL 70 dB, by moving them into the DNL 65 dB. Three hundred eighty nine people within the DNL 60-65 range will be moved into a lower noise contour with implementation of the combined measures NA-1 through NA-5.

NA-1 – New FMS/RNAV Flight Procedures (Section 6.1, page 82). This measure recommends inclusion of new GPS-based RNAV procedures, based on the same analysis of noise level improvements applicable to related, but less precise measures discussed below (section 6.2). FAA Orders 7100.9D and 8260.44A specify the design criteria to be used in developing the procedures, including that their purpose is to improve safety. The procedures are not to be designed solely for noise abatement, but they can be used to enhance it. The recommendation supplements these other measures, which collectively address improved guidance and increased use of arrival and departure routes to and from PWM that optimize overflight of the Fore River. The specific RNAV recommendation is included in section 6.2. Following modification in FAA policy on the use of GPS-based RNAV procedures, the development of such procedures to apply to arrival and departure routes over the Fore River is recommended.

Approved. Use of this measure is described in detail on page 87 of the NCP and is an integral part of overall implementation of measure 6.2. This recommendation is essentially an administrative measure since no noise abatement benefit would accrue until such procedures were developed and implemented.

NA-2 – Increase Departures from Runway 11 and Arrivals to Runway 29 over the Fore River (Section 6.2, pages 83-88). The goal of any new noise abatement measure addressing early southbound turns must be to utilize a departure routing out the Fore River. If defined precisely enough, the new procedure can also help reduce early left turns that cross over or near the Western Prom. For procedures that are voluntary or for existing procedures, no environmental analysis would be required to implement the following recommendations.

(1) Portland Tower would assign the current CASCO Standard Instrument Departure (SID) departure to as many aircraft departing Runway 11 as possible. If feasible, air traffic controllers would instruct aircraft assigned the CASCO SID to fly a 060-degree heading until reaching at least 3,000 feet mean sea level (MSL). This is an existing published procedure, and it ought to be usable immediately.

Approved as voluntary. FAA will review the procedure in accordance with its environmental orders to determine if an environmental analysis is required before the procedure may be implemented.

(2) If ATCT determines significant traffic delays will result from consecutive aircraft assigned to CASCO SID, the Tower would assign at a minimum the procedure to every re-certified Stage 3 aircraft and every Stage 2 aircraft that departs Runway 11. If possible, these aircraft would be instructed to fly a heading of 060 degrees until reaching 3,000 feet MSL.

Approved as voluntary. In practice, the FAA tower assigns this procedure to all aircraft types. During busy periods, this procedure is prioritized to apply to these aircraft types.

(3) PWM staff would also publish a voluntary noise abatement departure procedure that utilizes GPS technology and allows appropriately equipped aircraft to more precisely fly the same route as the CASCO SID. Proposed waypoints are illustrated in Figure 33 of the NCP, along with proposed text of the procedure.

Approved. PWM staff has initiated this step, and is working with the RNAV program office in order to work toward publication of the voluntary procedure. If the study process is successful, publication may occur.

(4) If and when PWM acquires a flight track monitoring system (section 6.9, measure A-1 in this ROA), the airport would use it to evaluate the CASCO SID as well as the voluntary noise abatement departure procedure (element (3), above) to determine if they are accomplishing their intended purpose of keeping the majority of aircraft over the Fore River. PWM staff will determine whether to extend or shorten the turn points and determine whether aircraft are staying on the 060 heading.

Approved as voluntary. The flight tracking system must technically be able to interface with the FAA equipment and operations, and must comply with FAA data download requirements. Eligibility for Federal funding and the scope of the proposed project will be determined at the time of application. For purposes of aviation safety, this approval does not extend to the use of monitoring equipment for enforcement purposes by in-situ measurement of any pre-set noise thresholds and shall not be used for mandatory enforcement of any voluntary measure.

(5) Once an optimum turning point and distance are identified (element (4), above), PWM staff would also modify coordinates in the GPS procedure if needed and ask ATO staff to take steps to implement, if feasible, a Type B RNAV SID as an instrument overlay to the voluntary procedure, in accordance with the details specified on page 87 of the Part 150 study. These procedures would have the objective of guiding aircraft over the Fore River. PWM Tower controllers would be able to issue a Casco Departure clearance to GPS-equipped aircraft and Boston Air Route Traffic Control Center (the Center) would be able to issue the same clearance during late night hours when the Tower is closed. RNAV overlays of existing procedures do not trigger a need for an additional EA or EIS under the NEPA nor applicable orders.

Approved. PWM staff and other FAA offices are working with the RNAV program office to develop this voluntary noise procedure.

(6) To maximize use of these departure routes, PWM staff would work with Federal Express and other known Stage 2 and re-certified Stage 3 users to demand their support

to request and accept the existing CASCO SID or future CASCO RNAV SID if approved by the FAA, or, alternatively, fly the voluntary noise abatement departure procedure.

Approved as voluntary. On February 17, 2004, the airport sponsor contacted the operator of these aircraft types to request their cooperation. The pilot would request use of this procedure.

(7) To increase arrivals over the Fore River beyond that afforded by the HARBOR Visual at Runway 29 (as shown previously in Figure 14), FAA Air Traffic would be requested to initiate design of a GPS-based RNAV STAR to Runway 29. It would serve as an instrument overlay to the Harbor Visual approach. GPS waypoints would replicate those of the proposed CASCO SID, altered as needed to meet FAA design criteria. Upon FAA approval, Portland Tower and the Center would issue clearances to fly the procedure when feasible and especially at night during periods when Runway 29 cannot be used for arrivals (section 6.5, NA-5, below).

Approved. PWM staff and other FAA organizations are working with the RNAV program office to develop this voluntary procedure.

NA-3—Reduce Early Left Turns After Takeoff from Runway 29 (Section 6.3, page 89). A mirrored issue exists with early left turns off of Runway 29. Although fewer people live west, west traffic flow occurs about 60 percent of the time, thus causing higher exposure levels than to the east. Westbrook residents are among the more heavily affected by PWM noise. No published noise abatement flight procedure exists as a remedy.

(8) To limit residential noise to the west of the airport, PWM staff would publish a voluntary noise abatement departure procedure in order to keep aircraft on a straight-out departure heading until approximately 5 nm from takeoff. It would utilize GPS technology, allowing properly instrumented aircraft to fly runway heading until reaching flyover waypoint FORCEE or 3,000 feet MSL.

Approved. PWM staff and other FAA offices are working with the RNAV program office to develop this voluntary procedure. Benefits of this measure are dependent upon implementation of measures NA-4 and NA-5.

NA-4—Federal Express Operations (Section 6.4, pages 90-91, Figure 37). PWM staff, Federal Express, and PWM Tower would work toward achieving the following (in order of importance). The NCP states Federal Express has indicated its readiness to work with PWM staff and ATO to increase its utilization of the CASCO SID

(9) Given that runway and departure procedure assignments are likely to be the primary measures available to address noise of FedEx aircraft, it is recommended parties work together to: (a) Maximize the number of 727 operations using Runway 29 for departures, remaining on the runway heading until reaching I-PWM 6.2 DME or 3,000 feet above MSL, whichever comes first; (b) if Runway 29 is unavailable for take-off, maximize use of Runway 11 for landing; (c) if departures from Runway 11 are necessary, use every effort to assign the existing CASCO SID (or future RNAV, if approved) to all B-727 operations, keeping the procedure in effect until the aircraft climb above 3,000 feet. If this is not feasible, the aircraft should fly the voluntary noise abatement departure procedure for Runway 11; (d) no B-727 aircraft should use Runway 18-36 for landing or take-off except in emergencies; or when Runway 11-29 is closed for repair, snow removal, or other

maintenance; or when the tailwind component for an operation will exceed the operating limit for the aircraft.

Assuming the tower is able to increase its assignment of the CASCO SID and that additional aircraft begin to follow the new voluntary noise abatement procedures at both ends of the main runway, noise exposure is likely to improve slightly in a number of areas east and west of PWM, illustrated in Figure 37 of the NCP. The benefit derives from fewer overflights by aircraft making early southbound turns shortly after takeoff, though these improvements are at DNL levels less than 55 dB.

Approved as voluntary. The airport sponsor and FedEx have communicated commitments to cooperatively work together to carry out this and other measures (February 11 and February 17, 2004, letters).

NA-5—Preferential Runway Use (Section 6.5, page 95). None of the other noise abatement measures in the NCP address noise exposure off Runway 18/36, nor do departure turns off 18/36 show benefit due to a lack of compatible land use or open water over which to concentrate flights. What does have benefit is the increased preferred use of Runway 11/29 over 18/36 provided the shift can be accomplished by the loudest of the aircraft using the crosswind on a regular basis (see NA-4 above). It appears the total overall usage of Runways 11 and 29 is well balanced; thus, the modifications discussed here are not intended to greatly alter use of the main runway.

To accomplish the shift in usage and achieve meaningful noise reduction for residents of Stroudwater and areas south of I-95, changes must occur. PWM's tower's current SOP, PWM 711.4, CHG 1, specifies weather criteria for preferred runways that are more stringent than allowed under FAA Order 8400.9.

(10) It is recommended that PWM tower consider changing its criteria to be consistent with FAA's national criteria, making 11/29 usable as the preferred runway more often.

(11) To achieve substantial benefit off 18/36 from preferential use of 11/29, a variety of aircraft types (listed on page 95) will need to request or be issued clearance to use the main runway instead of the crosswind.

A desire for expedited taxi times should not constitute sufficient reason to use 18/36. Effective implementation of this new program will best be accomplished with assistance from PWM staff. PWM staff would publicize use of Runway 11-29 through informational meetings, brochures, airfield signs, posters in flight planning or operations rooms, and follow-up with operators when pilots are found to be law or ignore the program.

Approved as voluntary. These voluntary measures were coordinated with pilots user groups and the FAA during the Part 150 study process. PWM current tower criteria are consistent with FAA Order 8400.9. The order permits additional flexibility.

PWM staff promotion of these voluntary procedures, including the use of signage must not be misconstrued as mandatory air traffic control procedures. Signage would also need to comply with applicable Advisory Circular requirements.

Land Use (L) Measures.

L-1 – PWM management will coordinate efforts with the City of Portland, the City of South Portland, and the communities of Westbrook, Scarborough, and Stroudwater to reduce incompatible land use development (Section 6.8, pages 99-100).

(12) Despite the general lack of interest in land use measures during the study process, it remains an important obligation of any airport to be involved with local land use decisions that can encroach on its operation or in other ways affect its development. PWM management will encourage noise notifications on subdivision plans, encourage building code revisions, and other similar low-level efforts to help assure that PWM minimizes its future impacts on its neighbors.

Approved. This is within the authority of the local land use jurisdictions; the Federal government does not control local land use.

Administrative (A) Measures.

A-1—New Flight Track Monitoring System (Section 6.9.1, pages 100-101). The City would establish a budget for a flight track monitoring system, invite vendors to demonstrate their systems, and initiate a Request for Proposal for delivery, installation, training, and support of a new flight track monitoring system. [This measure is linked to NA-2 and NA-3 of this ROA.]

Approved. The flight track monitoring system must technically be able to interface with the FAA equipment and operations, and must comply with FAA orders regarding data download requirements. Eligibility for Federal funding and the scope of the proposed project will be determined at the time of application. For purposes of aviation safety, this approval does not extend to the use of monitoring equipment for enforcement purposes by in-situ measurement of any pre-set noise thresholds and shall not be used for mandatory enforcement of any voluntary measure.

A-2—Initiate Periodic Calculations of EXP(posure) Metric (Section 6.9.2, page 101). PWM would initiate tracking of the EXP noise metric to better understand changes in noise exposure that might occur from such actions as new commercial flights, changes in nighttime operations, airfield construction, and so on. Reports would be issued to the public.

Approved. Approval under Part 150 of this measure is not an endorsement by the FAA of the EXP metric. Eligibility for Federal funding and the scope of the proposed project will be determined at the time of application. This measure is intended to assist PWM staff in implementing measures A-6 and A-7, and would help determine when the NEM and NCP may need to be updated to address requirements of section 150.23(e)(9).

A-3—Establish Engine Run-Up Procedures (Section 6.9.3, pages 101-102). PWM has previously established a location for engine run-ups. Though run-ups were not identified as a major issue during the course of this update, PWM staff intends to establish additional controls over maintenance activity.

(15) (a) Any operator wishing to conduct engine run-ups at greater than 70% power for more than 5 minutes must receive prior permission from PWM operations staff; (b) operators conducting run-ups for which prior permission is required must use the holding apron at the west end of Taxiway A (near the hold-short point for Runway 11); (c) operators conducting run-ups must use magnetic heading 110 degrees (or as close to this heading as feasible); (d) the run-up operator shall report to Jetport Operations with the start and end times, heading(s), maximum power setting, and purpose of the run-up; and (e) Jetport Operations will maintain a monthly log of each run-up, with a copy to the Assistant Airport Manager to assist in answering noise complaints.

Approved as voluntary. Measures requiring prior permission may not limit total number or hours of aircraft operations or reduce the level of aircraft safety. Mandatory procedures impacting aircraft operations or safety would be subject to compliance with applicable Federal law, including 14 CFR Part 161.

A-4—Continue to Work with Federal Express and Others to Encourage Conformance with Abatement Measures (Section 6.9.4, page 102).

(16) PWM will continue to influence local representatives of any company operating a Stage 2 or re-certified Stage 3 aircraft at PWM to (1) request from Air Traffic Control the Casco departure procedure to 3,000 feet (or the RNAV update if approved) or to fly other voluntary noise abatement departure procedures; (2) follow guidance on specified in the preferential runway use program; and (3) fully comply with maintenance run-up procedures.

Approved as voluntary. PWM staff proposes to work with these aircraft operators to increase noise sensitivity awareness and promote compliance with voluntary noise abatement procedures that are intended to improve noise around PWM and outside of the DNL 65 dB noise contour. This measure describes PWM staff actions to carry out approved noise abatement measures in this ROA and NCP update.

A-5—Request NAS Brunswick and USAF Flying Units to Curtail Practice Instrument Approaches at PWM (Section 6.9.5, page 102).

(17) Air Force KC-135 and Navy P-3 aircraft were responsible for a number of noisy events during the noise measurement program conducted as part of this Part 150 Update. Noise Abatement Committee members have also reported atypical flight patterns by P-3 aircraft. Due to neighborhood sensitivity, PWM would contact appropriate flying units and request that they conduct training elsewhere.

Approved as voluntary. PWM staff would initiate discussions to request military training operations at less noise-sensitive airports.

A-6—Continue Meetings with Noise Advisory Committee (Section 6.9.6, page 102).

(18) The longstanding Noise Advisory Committee would remain active and provide feedback to PWM staff on the success of the NCP update. Of particular concern are the noise abatement departure procedures and preferential runway use program of this study. The goal is to eventually develop comparable GPS (RNAV) procedures so that

additional precision can be added to existing procedures, and to track implementation of the flight track monitoring system.

Approved.

A-7—Attend Periodic Meetings of Local Homeowner Associations (Section 6.9.7, page 102).

(19) With an ongoing need to develop and maintain trust, understanding, and dialogue with airport neighbors, PWM management would visit homeowner associations in Portland and South Portland at least annually to discuss recent developments at PWM, progress on noise issues, upcoming events or construction, changes in activity, and other issues of local concern.

Approved.