



## **Frequently Asked Questions about PWM's Noise Abatement Program**

### **Q: How can I reach the Noise Abatement Office?**

A: For your convenience, there are two ways to report a noise event: call the Noise Hotline at 756-TELL (756-8355) or complete the Noise Complaint Form on the website. Both are available 24 hours a day, 7 days a week.

### **Q: When was the Noise Abatement Office established? What is its purpose and how is it staffed?**

A: In June of 1988, the City of Portland initiated a federally funded noise study for the Jetport and the nearby community. As a result, noise exposure maps (NEMs) were completed and submitted to the Federal Aviation Administration (FAA) in November 1989. The FAA accepted them in March 1990 and the Noise Compatibility Program (NCP) was approved in September 1990. Seventeen of the eighteen operational recommendations contained in the NCP were approved, and the remaining one was partially approved.

Although most of the recommendations were implemented, circumstances have changed since then, including the number of flights and the types of aircraft operating here. Because of these changes and the length of time since our last noise study, the airport noise advisory committee requested that we update our noise study. The FAR PART 150 update was completed in March 2006.

### **Q: How does the Airport monitor aircraft noise?**

A: PWM has purchased a Flight Tracking System called Era by Airscene. This system downloads all of the flights into and out of PWM. Daily, airport staff reviews this data and determines the flights that do not comply with the Noise Abatement Procedures.

### **Q: What is a Noise Monitoring System?**

A: A noise monitoring system is a computer program which is able to track flights and determine when they are outside a set of parameters.

### **Q: Why do aircraft sound louder at night?**

A: During nighttime hours, ambient (background) noise levels are generally low; therefore, noise events may be judged louder because the low ambient noise levels are used as a base for comparison. In addition, more noise events may be audible at low ambient noise levels. In comparison, during the daytime hours, ambient noise levels are likely to be higher because normal activity masks some noise events.

**Q: Will aircraft continue to become quieter?**

A: The current production of civilian aircraft is markedly more quiet than the older technology aircraft. Dramatic reductions in engine noise have occurred since the early 1980's. However, this dramatic reduction in noise with each new generation of engine is not projected to continue. Small evolutionary changes may be occurring, but the technological noise reduction achieved through higher engine bypass ratios has a limit, and that limit is being approached. It is important that based on current knowledge and without some new technological breakthrough, the kind of dramatic noise reduction achieved in the last 15 years will not be repeated in the near future. This information does not imply that reductions achieved will not be maintained, only that the continued improvements may be less dramatic. A new Boeing 777 has approximately one-tenth the noise "signature" on departure as a Boeing 727-200, yet it carries more than twice the number of passengers. Because aircraft have operating lives of 20 or more years, it takes decades for airline fleets to catch up to the latest and quietest technology. Absent any compelling incentive or regulatory requirements to retire older aircraft, airlines naturally expect to extend the usefulness of their capital investments for as long as possible.

**Q: What type of operating restrictions may the Airport impose?**

A: Airport operating restrictions are generally regulatory restrictions which, for noise control or other environmental reasons: (1) limit the type of aircraft which may use the airport; (2) limit the time of day that certain aircraft can use the airport; or (3) limit the number of aircraft which can use the airport during a defined time period. Historically, this has been a complex legal area where the federal government (principally the Federal Aviation Administration) and the local airport proprietor have had shared regulatory authority. State and local governments that are not airport proprietors, however, have generally been held by the courts not to have any regulatory authority over airport or aircraft operations for noise control purposes because of the preemptive effect of the "pervasive" scheme of federal regulation over such matters. Although airport proprietors historically had some discretion to control and regulate the use of its airport for noise control and other limited purposes, that discretion has always been subject to substantial federal oversight and influence by a variety of legal means, including the airport proprietor's obligations to the FAA under standard "**grant assurances**" given to the federal government under federal legislation dating back to 1946. In 1990, the Congress significantly limited the scope of the local airport proprietor's regulatory discretion for noise control purposes by adopting the Airport Noise and Capacity Act of 1990 (ANCA). FAA has subsequently adopted regulations implementing ANCA under Part 161 of the Federal Aviation Regulations (FAR) (14 CFR Section 161.1). The practical effect of ANCA and implementing legislation (Part 161) is to make traditional aircraft operation regulations by local airport proprietors infeasible without the concurrence of the air carriers or other operators affected by the restriction.

**Q: What are Part 150 and Part 161 studies?**

A: In those cases where aircraft noise, noise abatement and land use compatibility are issues of special concern, a study may be conducted following the guidelines set forth in FAR **Part 150**. Planning guidelines for conducting Part 150 studies are described in FAA Advisory Circular 150/5020-1, *Noise Control and Compatibility Planning for Airports*, dated August 1983. A Part 150 Study may also be conducted as part of an Airport

Master Plan. The study develops an inventory and five year forecast of aircraft noise, capacity issues and land use considerations. If potential conflicts are determined to exist, alternative noise abatement strategies may be developed and evaluated. If noise abatement strategies that may result in airport restrictions are pursued, the Part 150 Study must also meet the requirements of FAR **Part 161**, which requires that potential restrictions to airport or aircraft operations undergo an extensive economic impact study and receive FAA review and approval.

**Q: What are the air traffic control procedures at PWM?**

A: PWM has established a couple of different air traffic control procedures in regards to noise. The airport has recommended hours of operations for air carriers, preferential runway use, and the Harbor Visual Approach for runway 29 during appropriate weather.

**Q: Why are some aircraft lower than others when they arrive and depart PWM?**

A: Aircraft altitude is generally determined by distance from the landing or takeoff runway. The closer the aircraft is to the runway, the lower the altitude. PWM arrivals normally descend at a fixed angle of approximately three and one half (3.5) degrees as they approach for landing. The angle of ascent on departures is a function of aircraft type, weight, air temperature, and wind speed.

**Q: What is a preferential runway system and does PWM have one?**

A: A preferential runway (**PR**) system is a local traffic control procedure that identifies a specific runway for use when specific conditions are present. It is generally defined by a set of operational rules and parameters affecting or limiting runway selection options under defined weather and/or operational circumstances, and these programs are generally implemented by agreements between the Federal Aviation Administration, airport operators, and airport users. Preferential runway procedures are always specific to a particular airport, and they are typically developed to support noise abatement or noise control objectives, or for purposes of airport or air traffic control efficiency.

PWM does have a preferential runway use system. The system calls for late arrivals (usually after midnight) to land runway 11 and early departures (before 6am) to depart on runway 29. This is all dependant on the winds and weather.

**Q: What is an aircraft operation and how many does PWM experience annually?**

A: An operation consists of either a takeoff or landing. For example, an aircraft arriving at PWM and then departing some time later is counted as two operations. PWM has approximately 73,300 operations annually.

**Q: Why does the number of operations at PWM vary from hour to hour during any given day?**

A: Airlines operating at PWM primarily determine schedules based on the Airport Use Regulations, Time of Day Restrictions and passenger service demands. Most airlines rely on computer models to assist in the scheduling of aircraft, being sensitive to such issues as specific airport rules and regulations, aircraft size (seat availability versus seat demand) and aircrew schedules and rest requirements. Different airlines operate in

different modes, which also play a part in the amount of operations throughout the day at airports, system wide. For example, some airlines rely on “Point-to-Point” service between busy city pairs, whereas other airlines operate a “Hub and Spoke” type of operation, funneling passengers from smaller airports to a larger hub for redistribution to smaller airports. A recent trend at PWM shows that, although operations have decreased annually the last three years, passenger enplanements have increased dramatically since 2007 due to our new low cost carriers. This equates to airlines either using larger planes less frequently or the same size planes with increased load factors.

**Q: What can the Airport do to prevent noisier aircraft from flying over particular neighborhoods surrounding PWM?**

A: By law, the Federal Aviation Administration has the sole authority to manage the air traffic control (**ATC**) system and the navigable airspace in the United States; therefore, the Authority cannot restrict access to “noisier” aircraft or dictate departure routes. The FAA, not the Authority, has sole and exclusive regulatory authority over the operation of aircraft in flight, on the runway and taxiway surfaces at the Airport. At SDIA and all commercial airports, from the time an aircraft departs the terminal and enters the taxiway and runway system, and throughout its flight to and arrival at the gate of the destination airport, the aircraft moves only by instruction and permission of the FAA, and pursuant to the direction of FAA (not airport) personnel.

**Q: What limitations exist to the Airport’s ability to control operations at PWM?**

A: This is a complex subject. However, in very general terms, PWM and commercial aviation operate according to the following criteria: (a) the pilot has the final decision on runway use and reaches decisions based primarily safety-of-flight considerations; (b) the U.S. weather service reports conditions that determine runway selection; (c) the Federal Aviation Administration air traffic control system controls runway use and flight patterns assigned; and (d) airlines operating at the Airport determine schedules subject to the Airport’s Use Regulations and passenger service requirements.