

US EPA ARCHIVE DOCUMENT



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105**

August 10, 2005

Jennifer Mendelsohn  
U.S. Department of Transportation  
Federal Aviation Administration  
P.O. Box 92007  
Los Angeles, CA 90009-2007

Subject: Draft Environmental Impact Statement for Phoenix Sky Harbor International Airport, Maricopa County, Arizona (CEQ# 20050222)

Dear Ms. Mendelsohn:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act.

EPA is concerned that the Draft Environmental Impact Statement (EIS) insufficiently describes how the alternatives other than the No-Action and the Airport Development Program Alternatives were eliminated prior to consideration in the Draft EIS. We raise this concern because alternatives with potentially fewer environmental impacts were screened from detailed evaluation in the Draft EIS. In the attached detailed comments, we recommend that FAA include a better description of the evaluation criteria and how they were applied to the alternatives that have been eliminated. For this reason, we have rated the Draft EIS as Environmental Concerns – Insufficient Information (EC-2). Please see the enclosed “Summary of EPA Rating Definitions.”

EPA is pleased that the proposed build alternative, including improvements to ground access, terminals, and the automated people mover, is expected to have minimal adverse impacts to air quality and may have significant air quality benefits. To further reduce potential air quality impacts from operations and construction at Phoenix Sky Harbor International Airport, EPA recommends that the Federal Aviation Administration (FAA) and the City of Phoenix identify and implement additional design features and mitigation measures for the proposed project. These voluntary measures will provide health benefits to the surrounding communities. Our specific recommendations are provided in the attached detailed comments.

We appreciate the opportunity to review this Draft EIS. When the Final EIS is released for public review, please send two copies to the address above (mail code: CED-2). If you have

any questions, please contact me or Matthew Lakin of my staff at Lakin.Matthew@epa.gov or (415) 972-3851.

Sincerely,

/S/  
Nova Blazej, Acting Manager  
Environmental Review Office

Enclosures: Summary of EPA Rating Definitions  
EPA's Detailed Comments

cc: David Krietor, City of Phoenix Aviation Department

## Alternatives

The Council on Environmental Quality (CEQ) Regulations require Federal Agencies to “Rigorously explore and objectively evaluate all reasonable alternatives” (40 CFR Part 1502.14). The Draft EIS should ensure that the range of alternatives is presented in a way that sharply defines the issues and provides a clear basis for choice among options for the decision maker and the public. As discussed in Chapter 2 and Appendix H of the Draft EIS, FAA and the City of Phoenix considered eight alternatives and eliminated all but two of those alternatives – the No-Action and the Airport Development Program – prior to consideration in the Draft EIS. EPA acknowledges that the proposed build alternative appears to be both operationally and environmentally preferable to the No-Action alternative, but we remain concerned that the reasoning for eliminating six alternatives prior to consideration in the Draft EIS is not well described in Chapter 2.

### **Recommendation**

We recommend that FAA incorporate more of the discussion from Appendix H into Chapter 2. The evaluation criteria for Levels 1 and 2, and their application, should be described in greater detail, especially for alternatives that have been eliminated.

We also note that Alternative 7 has many of the same operational and air quality benefits as the build alternative, Alternative 6, carried forward for detailed analysis in the Draft EIS. Alternative 7 would lead to substantial improvements in landside capacity and efficiency through improvements to Terminal 3, realignment of Sky Harbor Boulevard, and construction of Stage 2 of the APM system, but without replacement of Terminal 2. Appendix H states that Alternative 7 would require the use of remote gates or hardstand locations to meet the projected need for domestic passenger handling, leading to decreased passenger comfort and decreased efficiency, thus not satisfying Purpose and Need for the project. We acknowledge the concern for use of remote gates and hardstand operations in terms of passenger comfort and security, as described in Table 1.2-1-2. However, we note that if Alternative 7 were modified to eliminate the use of remote gates and hardstand locations, it would still lead to improvements in the balance between landside and airside capacity and thus potentially satisfy the Level of Service Guidelines and stated purpose of the project (page 1-22).

### **Recommendation:**

In the Final EIS, FAA should describe whether a modified Alternative 7, without remote gates or hardstand locations, has been considered. If not, the Final EIS should provide justification for why Alternative 7, without remote gates, does not satisfy purpose and need. Specifically, FAA should clarify what it means to balance airside and landside operations and justify whether this means improvements or an equal balance.

## Air Quality

As noted in the Draft Environmental Impact Statement (EIS), the Phoenix metropolitan area is classified as non-attainment for 8-hour ozone (O<sub>3</sub>) and particulate matter less than ten microns in diameter (PM<sub>10</sub>). Airport sources, including aircraft, ground support equipment, ground access vehicles, and construction equipment for the proposed project are sources of air emissions for the ozone precursors, nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs), as well as PM<sub>10</sub>, particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>), and air toxics, including hazardous air pollutants (HAPs) and diesel particulate matter (DPM).

Although the analysis and discussion of air quality impacts is generally well done, EPA recommends that several clarifications be included in the Final EIS.

**Recommendation:**

Page 4-3 states that, when compared to baseline (2001) conditions, the total amounts of air emissions are expected to increase in the future (2015), with or without the proposed improvements. We recommend that the 2001 baseline emissions inventory be included in Table 4.2.3-1. Also, to the extent that emissions increase for the Airport Development Program (ADP) Alternative compared to baseline conditions, we recommend that the Final EIS discuss the extent to which Federal Aviation Administration's (FAA) mitigation commitments reduce air emissions towards the baseline.

Similarly, Table 4.2.5-5 presents emissions reductions as a percent of total Maricopa County Emissions. We recommend that Table 4.2.5-5 be expanded to include total airport emissions for both the ADP Alternative and the No Action alternative, as well as the percent of regional total for all airport operations under these alternatives. This information provides a useful context for understanding the emissions reductions for the proposed ADP Alternative, and highlights the effectiveness of FAA's mitigation commitments.

EPA commends FAA for the discussion of potential impacts from hazardous air pollutants (HAPs), section 4.2.3.4. However, we recommend that FAA eliminate the sentence "Airport related HAP emissions are a very small portion of the HAPs emitted in the region around the Airport (USEPA, 1996)." Comparing total tons of emissions for Phoenix Sky Harbor Airport to Maricopa County is not an adequate indicator of the potential for human health effects because 1) some HAPs, such as acrolein, which is emitted by airport operations, have a much higher potential toxicity than other HAPs and 2) there is still the potential for near-airport, hotspot impacts from HAPs. These issues should be clarified in the Final EIS.

Given the large size and high number of operations at Phoenix Sky Harbor International Airport, there are substantial opportunities for FAA and the City of Phoenix to reduce the potential impacts from airport and project-related air emissions through project design and a comprehensive mitigation package covering both operations and construction at the airport. EPA commends FAA and the City of Phoenix for the air quality mitigation measures listed in Chapter 5 of the Draft EIS (pages 5-2 and 5-3),

especially the consideration of efficient layout of runways, taxiways, and terminals to reduce aircraft movements; efficient circulation for ground access vehicles; and consideration of buffer zones reducing exposure of sensitive receptors to air emission sources. It appears that the build alternative will lead to overall improvements in air quality due to improvements in ground access circulation at Sky Harbor Boulevard, improvements in aircraft movements through the construction and use of taxiways U and V, and improved access to the terminals through completion of the automated people mover (APM) and links to remote parking as well as light-rail transit.

**Recommendation:**

To further protect human health, EPA recommends additional operational and construction mitigation measures as follows: We encourage FAA and the City of Phoenix to work with EPA to further identify the suitability and opportunities for implementation of these measures at Phoenix Sky Harbor International Airport. EPA has recently worked with Los Angeles World Airports to identify similar, voluntary measures that will be implemented during improvements to Los Angeles International Airport.

*Operational Mitigation Measures*

Through conversations with Dave Kessler (FAA), we understand that FAA and the City of Phoenix intend to incorporate a number of improvements in the terminal design in order to minimize air quality impacts. The design improvements, along with the quantified benefits of such improvements, should be provided in detail in the Final EIS.

Specifically, we recommend that FAA and the City of Phoenix implement the following operational and design improvements to the greatest extent feasible:

- Electrify and provide pre-conditioned air at all gates, in order to reduce auxiliary power unit (APU) emissions from aircraft.
- Use green building design with energy efficiency features for new and existing buildings. Optimize energy efficiency, including thermal efficiency, through building design and improvements, establishing efficiency goals and verifying energy reductions.
- Use low volatile organic compound (VOC) emission paints and cleaning products.
- Increase the use of alternative fuel vehicles for bus and shuttle fleets; encourage the use of alternative fuel vehicles for all ground access, such as rental cars and taxis, through preferred parking and other measures.
- Improve access to alternative fuels and ultra-low sulfur diesel fuel for ground support equipment, including baggage tugs.

*Construction Mitigation Measures*

We recommend that all construction mitigation measures be listed in the Final EIS and that construction impacts and the benefits of mitigation measures be quantified in the Final EIS. These mitigation measures should be included in a Construction

**Mitigation Plan.** The Record of Decision (ROD) should include a commitment to implement the Construction Mitigation Plan as a condition of FAA approval of the project, in order to minimize ozone precursor, PM<sub>10</sub>, and air toxic emissions, including DPM.

Adding to the dust reduction measures listed on page 5-3 of the Draft EIS, we recommend:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

For mobile and stationary construction sources, we recommend:

- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications.
- Prohibit any tampering with engines and require continuing adherence to manufacturers recommendations.
- Require that leased equipment be 1996 model or newer unless cost exceeds 110 percent or average lease cost. Require 75 percent or more of total horsepower of owned equipment to be used be 1996 or newer models.
- Use particulate traps where suitable.

For administrative controls, we recommend:

- Identify where implementation of mitigation measures is rejected based on economic infeasibility.
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. Suitability of control devices is based on: 1) whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output; 2) whether there may be significant damage caused to the construction equipment engine; or 3) whether there may be a significant risk to nearby workers or the public.
- Utilize cleanest available fuel engines in construction equipment and identify opportunities for electrification.
- Develop a construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Incorporate programs such as Leadership in Energy and Environmental Design (LEED).



**EPA recommends that FAA develop a plan for suspending or reducing construction activities during unhealthy air quality conditions. Markers for unhealthy air quality conditions can include criteria such as an Air Quality Index (AQI) above 150 (“unhealthy”) or concentrations 25% above the National Ambient Air Quality Standard (NAAQS) for any pollutant. The City of Phoenix is developing a Natural Events Action Plan for high wind conditions. FAA should ensure that construction activities are consistent with this Action Plan.**

### **Security**

**The Draft EIS contains several brief mentions of security considerations, but provides no comprehensive analysis of security impacts of the proposed alternatives. There may be substantial differences in airport security between the alternatives. The proposed new terminal, modifications to existing terminals, changes in ground access, and addition of Stage 2 of the APM allow FAA and the City of Phoenix to identify opportunities for enhanced security.**

#### **Recommendation:**

**If security considerations are likely to influence decisions by FAA and the City of Phoenix, the Final EIS should, in the interest of public disclosure, discuss the differences in security between the alternatives. In addition, the Final EIS should identify opportunities for improved security through design modifications at the terminals, for ground access, and for the APM.**