SECTION 3.0 RESPONSE TO COMMENTS

Comments received during the 84-day public review period on Draft Program EIR No. 589 raised a wide array of issues. The comments included written correspondence; oral testimony provided at the public meetings on November 29, December 3, and December 5, 2005; oral comments made at the joint study session of the Planning Commission and Cultural Heritage Commission on December 15, 2005; comment cards submitted at the public meetings or study session; and e-mail correspondence. Many of the comments were on common issues or concerns. For this reason, topical responses for each section of the EIR were prepared. This approach reduces redundancy throughout the Responses to Comments document and provides the reader with a comprehensive response to the broader issue. After the Topical Responses, responses are provided for each of the comments received.

3.1 TOPICAL RESPONSES

3.1.1 PROJECT DESCRIPTION AND RELATIONSHIP OF IMPROVEMENTS TO INCREASED FLIGHTS AND THE AIRPORT NOISE COMPATIBILITY ORDINANCE

Issue*: A concern expressed by a number of the commenters is that by providing terminal and related facilities improvements at the airport, the Proposed Project will encourage or cause the number of flights at the airport to increase above the level of commercial or commuter flights which would otherwise serve the Airport. An associated concern expressed in some comments is that the facility improvements may lead to future modifications to the Airport Noise Compatibility Ordinance, eliminating regulatory constraints on aircraft operations, or increasing the minimum number of daily operations currently permitted under the ordinance. Some comments also raised the related contention that the "Optimized Flights" scenario should have been included as an essential component of the project description.*

The following response addresses generally each of these related comments and contentions and is intended as the response to comments on these topics, as referenced in specific responses to individual numbered comments. Where applicable, this response provides information in addition to other information provided in specific numbered responses.

Response: As noted in the Draft Environmental Impact Report (EIR) (page 2-7), the Proposed Project proposes improvements to the existing Airport Terminal Building and related facilities at the Airport in order to accommodate minimum allowable commercial and commuter aircraft and related passenger activity levels with a reasonable level of passenger and operator safety, security and convenience. Increased demands on terminal area facilities resulting from post-9/11 airport security requirements (including, *e.g.*, Transportation Security Administration (TSA) office and operating space), as well as operational efficiencies which can be realized for the movement and processing of passengers and commercial air traffic, indicate that the Proposed Project would provide important safety, security and convenience (and, in certain respects, environmental) benefits to the air traveling public, commercial airport users and the Long Beach community. However, none of the improvements contemplated by the Proposed Project are essential to accommodate existing or forecast passenger or aircraft traffic levels in the sense that existing or forecast passenger or aircraft traffic levels would be reduced in the absence of the Proposed Project. There are numerous existing and historical examples of commercial air terminal and related facilities operating at "densities" greater than those currently existing at the airport. While the "no project" or "existing conditions" scenario of the Proposed Project would impose safety, convenience and environmental burdens on the air traveling public, airport users, and the general community, neither the current nor forecast levels of commercial air service activity (including commuter airline activity) depend upon the completion of the Proposed

Project. In other words, the forecast growth in passenger service activity at the airport would occur whether or not the Proposed Project is completed: the absence of the Proposed Project would simply impose safety, security, convenience and environmental burdens on the air traveling public, airport users and the general Long Beach community.

The aircraft and passenger activity levels, existing and forecast, are consistent with existing City regulation of airport use, principally under the City's Airport Noise Compatibility Ordinance ("Ordinance") and the 1995 Settlement Agreement, which is described in the EIR and summarized in the following paragraph of this response. The terminal and related improvements contemplated by the Proposed Project have been sized in such a manner that they would still be below airport design standards accommodating the minimum commercial flight level activity permitted by the Ordinance (41 air carrier flights and 25 commuter flights). There is no component of the Proposed Project, which proposes, contemplates, permits, or is in any respect dependent upon any increase in aircraft activity levels beyond those currently permitted under the Ordinance. No modifications to the operational and noise related limitations of the Ordinance are part of the Proposed Project, nor would approval and implementation of the Proposed Project require, or in any respect be dependent upon any such future regulatory modifications by the City. The City has repeatedly stated, formally and informally, that any forecast increase in passenger activity, or increase in flight activity above existing conditions, must occur strictly within the existing operational, noise and service constraints of the Ordinance, with or without the Proposed Project; and that the City is fully committed to the continued enforcement of the Ordinance.

To understand the City's current Airport Noise Compatibility Ordinance and its relationship to the Proposed Project, some background is beneficial. As discussed in greater detail in Section 2 of the Draft EIR, in 1981 the City of Long Beach adopted a noise control ordinance, which limited the number of air carrier flights at the Airport to 15 per day and required the use of quieter aircraft. The principle purpose of the ordinance was to reduce the "cumulative" noise exposure generated by the Airport and affecting adjacent residential communities. The ordinance was amended at least once during the 1980s. Eventually, the airport noise control ordinance was challenged on constitutional grounds by various commercial airlines in federal court. In an effort to resolve protracted litigation, the City and the airlines entered into a stipulated settlement agreement, approved by the federal District Court, in 1995. Under the settlement, the City Council adopted the current Airport Noise Compatibility Ordinance, which was enacted as Chapter 16.43 of the *City's Municipal Code* (defined in the previous paragraph as the "Ordinance").

The current Ordinance includes two major components. The first establishes Single Event Noise Exposure Level (SENEL) limits for aircraft operating into and out of the Airport, excluding noisier classes of aircraft otherwise permitted to operate in the United States at the time the Ordinance was adopted. This has important "single event" limit benefits for surrounding residential communities. The second principle component of the Ordinance establishes a Community Noise Equivalent Level (CNEL) "noise budget" and minimum permitted number of daily flights for the various defined categories of aircraft users at the Airport, including commercial air carrier and commuter operators. Chapter 16.43 permits air carriers to operate a minimum of 41 airline flights per day, while commuter carriers are permitted to operate a minimum of 25 flights per day. The Ordinance allows the minimum permitted number of flights per day to be increased in each operator flight restriction category as long as the flights operate at or below the annual CNEL budgets for each class of operator defined in the Ordinance.[1] At no time since adoption

[1] The Airport Noise Compatibility Ordinance is provided as an attachment in Appendix F of the Draft EIR and can also be viewed at the Airport website at www.lgb.org. The key provisions of the settlement agreement are summarized in Section 2.4 of the Draft EIR.

of the current Ordinance has the City authorized any increase in the minimum number of permitted air carrier or commuter flights although, as explained below, such increases might occur in the future, with or without adoption of the Proposed Project.

In order for the minimum number of permitted air carrier or commuter flights to be increased under the Ordinance for any one-year period, the airlines would have to optimize their flight operations at the Airport. For the commercial air carriers, this would include using the quietest feasible models of aircraft for each and every flight at the airport and substantially reducing late night (10:00 p.m. to 7:00 a.m.) operations at the Airport (*i.e.,* curfew violations).[2]

Under optimal conditions, which have never been achieved at the Airport, the estimated number of increased air carrier flights would range between 7 and 11 flights ("Optimized Flights Scenario").

As discussed above, an "Optimized Flights Scenario" has never occurred at the airport, and the maximum number of permitted air carrier flights has been limited to 41 daily flights in each year since 1995. However, if the commercial air carriers operating at the Airport did make the equipment, operational and scheduling decisions which could result in an increase in permitted flights for any future year, those decisions can and will be made independent of whether or not the Proposed Project is adopted and implemented. In other words, improved terminal and terminal area facilities (including passenger parking facilities) are not necessary to, nor would they induce, the economic and marketing decisions by the air carriers necessary to reach an "Optimized Flights Scenario" in any future year. The air carrier decisions necessary to reach an Optimized Flights Scenario are, and will continue to be, dependant upon system wide economic, operational, demand and equipment availability factors unrelated to the terminal facilities which exist, or may exist in the future at the Airport.

The DEIR has addressed and analyzed noise levels and potential noise impacts associated with additional commercial flights under an Optimized Flights Scenario. However, this analysis has been provided principally as additional information for the public and the City "decision makers" in considering the Proposed Project. This additional analysis has been provided in recognition of the controversial nature of the airport in certain areas of the Long Beach community, but it is ***not a consequence, foreseeable or otherwise, of the Proposed Project***, ***nor is it an environmental impact of the Proposed Project, significant or otherwise.*** As stated on page 2-7 of the DEIR, neither the full utilization of all 25 commuter flights nor the potential increase of up to 11 air carrier flights over current operational levels at the Airport are causally related to the project proposed facilities improvements. If the operational procedures and aircraft used are optimized so that additional flights could operate within the noise limits ("noise budget") permitted by the Airport Noise Compatibility Ordinance, then the increased flights would be allowed regardless of whether the Proposed Project is approved or built. Since the Ordinance already permits the airlines to operate in a manner which could result in an increase in flights within the range contemplated by the "Optimized Flights Scenario," such a future occurrence would not be considered a "discretionary action" within the meaning of CEQA (again, regardless of whether or not the Proposed Project is approved or adopted); therefore, the scenario analysis effectively applies with equal effect or probability of occurrence to all the alternatives analyzed in the EIR, including the "no project" alternative.

A key and stated objective of the Proposed Project is to ensure that the improvements proposed as part of the project are in keeping and consistent with the parameters and operational

[2] The noise analysis section of the Draft EIR explains the significance of late night flights to the calculation of CNEL. Essentially, any flight ("noise event") occurring between 10:00 p.m. and 7:00 a.m. is treated as if it were ten such flights. These flights, when they occur, become significant events in calculating CNEL levels.

regulatory limits of the City's current Airport Noise Compatibility Ordinance. Again, the Proposed Project would not in any way modify the requirements of the Ordinance. There has been no discussion of modifying the Airport Noise Compatibility Ordinance. City staff and the City Council have all voiced their support of continued enforcement of the Ordinance and the importance of ensuring full airline compliance with the provisions of the Ordinance. Further, if any changes to the Ordinance were to be considered in the future (and there is no present reason to believe that any such consideration will ever occur), it would be a "project" under CEQA and would require separate environmental documentation - almost certainly a full EIR - to evaluate the impacts associated with those modifications. This Proposed Project does not propose or contemplate, and therefore this EIR does not address any impacts associated with, a hypothetical future Ordinance amendment, and therefore this EIR could not be considered adequate for such an hypothetical action. It would be purely speculative for this EIR to attempt to consider what airport operational conditions might be at the Airport without the Airport Noise Compatibility Ordinance, with or without the Proposed Project. There simply is no factual basis for structuring or attempting to "analyze" any such purely hypothetical speculation. Addressing modifications to the Ordinance would not be relevant to the project at hand, nor would it serve the interest of the community, which wants the Ordinance maintained. (See generally the provisions of CEQA Guidelines Sections 15144 and 15145).

3.1.2 DETERMINATION OF SIGNIFICANCE

Issue: Several *of the commenters requested clarification on the meaning of the term "significant" and how an impact is determined to be significant*.

Response: The definition of significant in the glossary of the Draft EIR (page 9-4) is taken from the CEQA Guidelines, Section 15382 and reads as follows:

> SIGNIFICANT IMPACT: As defined by CEQA, a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant. The lead agency will determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record.

Within the body of the Draft EIR this is expounded upon further. For each topical area, thresholds of significance are provided. These are the standards used when making the determination if an impact is considered significant. As defined by the CEQA Guidelines, Section 15064.7, "A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant."

As discussed on page 3-1 of the Draft EIR, the City of Long Beach has not formally adopted thresholds of significance. Therefore, the thresholds of significance for this EIR have been developed in cooperation with the City of Long Beach (Environmental Planning, Engineering, and Airport Bureau) and were derived from several sources, including previous EIRs prepared by the City, the City General Plan, State CEQA Guidelines Checklist, and adopted thresholds from other agencies (such as the Federal Aviation Administration and the South Coast Air Quality Management District).

Pursuant to the thresholds of significance, the Proposed Project would result in significant impacts associated with aesthetics, air quality, cultural resources, and hazards and hazardous materials. The Optimized Flights Scenario would have significant impact on air quality, land use, and transportation. These impacts were identified as significant prior to the consideration of the recommended mitigation program. The mitigation program recommended actions that could be taken which would reduce these potential impacts. For both the Proposed Project and the Optimized Flights Scenario, only the air quality impacts remained significant after the implementation of the mitigation measures. These were impacts that were identified as unavoidable, significant impacts. That means that even with the implementation of mitigation measures, the impact would not be reduced to below the threshold of significance used for the evaluation. This does not mean that the Proposed Project cannot be approved, but it would require the City to adopt a Statement of Overriding Considerations, which states that the specific economic, legal, social, technological, or other benefits of a Proposed Project outweigh the unavoidable adverse environmental effects.

The following are the specific thresholds used as part of the EIR evaluation.

Aesthetic Thresholds

As indicated in the Draft EIR on page 3.1-4, impacts to aesthetics would be considered significant if:

- Components of the project would be inconsistent with applicable plans and policies as set forth by the General Plan, Zoning Ordinance, and Planned Development Ordinance.
- The project would substantially degrade the existing visual character or quality of the site and surroundings.
- The project would adversely impact views of the existing Terminal from the airfield and the street.
- The height and massing of structural elements of the project would not be compatible with the existing historic Terminal Building and nearby residential neighborhoods.
- The project includes reflective glass with a reflectivity greater than 20 percent.

Air Quality and Human Health Risk Thresholds

As indicated in the Draft EIR on page 3.2-31, air quality impacts would be considered significant if the project will result in one or more of the following:

- Violate any ambient air quality standard.
- Contribute substantially to an existing or projected air quality violation. For CO, an increase of ten percent or greater would be considered significant.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in an incremental (future alternative compared to 2005 Baseline) cancer risk greater than ten in one million (1×10^5) or an incremental hazard greater than one for residents, school children, and off-airport workers.
- Exceed occupational standards developed or adopted by Cal/OSHA for airport workers.

- Conflict with or obstruct implementation of the applicable air quality plan.

Cultural Resources Thresholds

As indicated in the Draft EIR on pages 3.3-6 and 3.3-7, the Proposed Project is considered to have a significant impact on cultural or paleontological resources if any of the following occurs:

Archaeological Resources

A significant impact would occur if grading and construction activities would result in a substantial adverse change in the significance of an archaeological resource determined to be "unique" or "historic." "Unique" resources are defined in *Public Resources Code* Section 21083.2; "Historic" resources are defined in *Public Resources Code* Section 21084.1 and CEQA Guidelines Section 15064.5.

Paleontological Resources

An impact to paleontological materials would be considered a significant impact if the Proposed Project results in the direct or indirect destruction of a unique or important paleontological resource or site. The criteria used to determine if a resource is unique or important are: the past record of fossil recovery from the geologic unit(s); the recorded fossil localities in the project area; observation of fossil material onsite; and type of fossil materials previously recovered from the geologic unit (vertebrate, invertebrate, etc.).

Historical Resources

A significant impact would occur if the Proposed Project would cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

Hazards and Hazardous Materials Thresholds

As indicated in the Draft EIR on page 3.4-10, the project would cause a significant impact if it would:

- Create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

- Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to *Government Code* Section 65962.5 and as a result would create a significant hazard to the public or to the environment.

- Be inconsistent with the applicable goals, objectives, and requirements of the City of *Long Beach Public Safety Element* or *Strategic Plan 2010*.

Land Use and Planning Thresholds

As indicated in the Draft EIR on page 3.5-11, the Proposed Project would be considered to have a significant impact related to land use if it would:

- Conflict with applicable land use plans, policies, or programs of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

- Conflict with the policies of the *Southern California Association of Government's Regional Comprehensive Plan and Guide*.

- Be inconsistent with the applicable goals, objectives, and requirements of the *City of Long Beach General Plan* and its Elements, Zoning Ordinance and the Planned Development Ordinance and Strategic Plan.

- Cause displacement or induced airport land use beyond the Airport boundary.

Noise Thresholds

As indicated in the Draft EIR on pages 3.6-17 and 3.6-18, the project would cause a significant noise-related impact if it would result in:

Construction Noise

- Construction activities that exceed the Noise Ordinance (Title 8 of the *Municipal Code*).

- Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels.

- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Airport Operations

- Exposure of persons to or generation of noise levels in excess of standards established in the General Plan, Airport Noise Compatibility Ordinance, and applicable standards of State and Federal Agencies.

- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Public Services Thresholds

As indicated in the Draft EIR on page 3.7-4, impacts to public services would be considered significant if the Proposed Project:

- Does not conform to the policies of the General Plan pertaining to public services related to the Airport.

- Would result in a substantial increase in demand for public services at the Airport, which cannot be met by existing staff.

- Would result in inadequate emergency access at the Airport.

- Would result in inadequate security as determined by TSA.

- Would conflict with Airport and FAA standards and regulations.

- Would result in an air or ground safety hazard.

Transportation and Circulation Thresholds

As indicated in the Draft EIR on page 3.8-9, impacts to transportation, circulation, and parking would be considered to be significant if:

- The resulting level of service (LOS) at an intersection is E or F, and the project-related traffic causes a volume-to-capacity (V/C) increase of 0.02 or higher to the critical movements.

- The project would contribute 500 or more net daily trips (total both directions) or 50 more net hourly trips (total both directions) to a residential street segment.

- The level of service standard established by the county congestion management agency for designated roads or highways would be exceeded, either individually or cumulatively.

- If the project would result in inadequate parking capacity.

- If the project would result in noncompliance with Southern California Association of Government (SCAG) regional transportation policies or inconsistency with the General Plan or Strategic Plan.

3.1.3 ALTERNATIVES

Issue: *The Draft EIR did not address an adequate range of alternatives.*

Response: CEQA requires an EIR to consider a "range of reasonable alternatives to the project." CEQA Guidelines Section 15126.6 outlines the considerations required by CEQA in defining and analyzing that "range" of alternatives. First, the alternatives considered must be alternatives which would "… attain most of the basic objectives of the project", although an alternative is not required to obtain *all* of the project objectives and can be considered in the EIR "… even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly" than implementation of the Proposed Project. Second, alternatives considered in the EIR should be alternatives which would "… avoid or substantially lessen any of the significant [environmental] effects of the [proposed] project," and the EIR should "… evaluate the comparative merits of the alternatives." However, an EIR is not required to consider an alternative "… whose effect cannot be reasonably ascertained and whose implementation is remote and speculative." Thus, just as the analysis of a proposed project cannot and should not be premised upon remote or speculative future consequences or changes in existing public policy, neither should an alternative be selected for analysis which focuses on or considers a speculative future scenario.

An EIR must consider, as one of the alternatives analyzed, the "no project" alternative. The purpose of considering this alternative is "… to allow decision makers to compare the impacts of approving the Proposed Project with the impacts of not approving the proposed project." The "no project" case consists of the "existing conditions… as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved …"

The purpose of this analysis is to "… foster meaningful public participation and informed decision making." As noted in the CEQA Guidelines, "[t]here is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason."

The Draft EIR considers three alternatives to the Proposed Project, identified in the Draft EIR as Alternatives "A", "B" and "C". Alternative C is the no project alternative. These alternatives are analyzed and compared to the Proposed Project in Sections 3 and 4 of the Draft EIR. Although there are theoretically an infinite number of possible alternative scenarios to a project, such as the terminal area improvements contemplated by the Proposed Project in this case, CEQA only requires the Lead Agency preparing the EIR to select a reasonable range of alternatives that will foster informed decision-making regarding the project. Alternatives A and B involve lesser facilities improvements (*e.g.,* total "after project" terminal facilities of 97,545 and 79,725 square feet, respectively) than those proposed by the project case (after project facilities of 102,850 square feet), and Alternative C (the no project case) analyzes no facilities improvements (existing terminal facilities of 56,320 square feet).

This analysis complies with the purpose and requirements of CEQA for consideration of alternatives. No comment has been received which compels the conclusion that the selected alternatives do not define a "reasonable range" of alternatives, and no comment has proposed a distinct alternative which would, if analyzed, feasibly attain most of the project objectives while significantly enhancing the environmental analysis of the EIR or fostering significantly improved opportunities for informed decision making by the City at the time it considers the EIR and the Proposed Project.

3.1.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Issue: *How was the environmentally superior alternative selected? Were only a few issues considered?*

Response: As a point of reference, the discussion of how the environmentally superior alternative was selected is provided on pages 4-8 and 4-9 in the Draft EIR and is also summarized on page 1-25. The environmentally superior alternative is determined based on the whole of the information. It is of the Draft EIR. In determining the environmentally superior alternative for the Long Beach Airport Terminal Improvements Project, the Draft EIR compared the potential environmental impacts associated with each of the alternatives (see Table 4.5-1 on pages 4-10 through 4-12 for a summary comparison of the impacts for each alternative). Based on this comparison, the build alternatives were compared to each other and to the No Project Alternative. Each of the build alternatives (the Proposed Project, Alternative A, and Alternative B) would have similar types of impacts because similar facilities would be provided by each of the alternatives. Significant impacts prior to mitigation were identified for all the build alternatives in these areas: aesthetics (construction related); air quality (construction impacts); cultural resources; hazards and hazardous wastes; and noise (construction impacts). For all these alternatives, only the construction air quality impacts would remain significant after implementation of mitigation measures. Even though Alternatives A and B propose less square footage, the nature of the impacts associated with construction would generally be the same because the same amount of equipment would be operating during a peak construction day, although the duration of construction activities would be slightly less for Alternatives A and B.

The impacts of the build alternatives were then compared to the No Project Alternative. The No Project Alternative would avoid the significant construction-related impacts (i.e., construction air quality impacts); however, it would have more substantial long-term air quality impacts. The No Project Alternative would not include the mitigation measures associated with the human health risk assessment. Therefore, the reduction in emissions provided for through the mitigation measures would not apply to the No Project Alternative. From an environmental perspective, the long-term air quality benefits of providing the infrastructure for electrification of the ground support equipment would outweigh the short-term construction emissions. Additionally, even if the No Project Alternative were to be considered environmentally superior, CEQA Guidelines

Section 15126.6(e)(2) states, "if the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."

As previously indicated, when comparing the three build alternatives, the impacts would be very similar because the same types of improvements are proposed with each alternative. Therefore, the next step in determining the environmentally superior alternative was to consider the extent to which the alternatives meet the project objectives. Each of the alternatives (including the Proposed Project) would provide additional capacity to Long Beach Airport and would help to accommodate the number of passengers served by the minimum number of flights allowed in accordance with the Airport Noise Compatibility Ordinance. However, it is believed that the Proposed Project would best meet the needs for the passengers, visitors, and tenants because, based on the *Facility Requirements Analysis, Long Beach Municipal Airport* (HNTB, 2004) study which was prepared during the scoping process, the recommended sizes of the facilities actually exceeded the square footage allocation of even the Proposed Project. The HNTB study considered industry standards across the United States for similar types of airports, as well as building and safety codes. The Proposed Project is able to meet all the project objectives, including: (1) complying with the parameters of the adopted Airport Noise Compatibility Ordinance; (2) maintaining the current character of the Airport Terminal Building as a Long Beach Cultural Heritage Landmark; and (3) constructing an operationally, energy-efficient, and value-driven design. Since the Proposed Project would not result in substantially greater impacts than the other build alternatives and would be better able to meet the project objectives, it was determined to be the environmentally superior alternative.

Another consideration when selecting the environmentally superior alternative is the consideration on the number of aircraft parking positions. The Proposed Project was evaluated with 14 parking positions. The project description identifies between 12 and 14 parking positions. However, the reduction to 12 parking positions would potentially result in an increase in air quality emissions. Based on Department of Transportation data, approximately 15 percent of the arrivals at the Airport are late. When aircraft arrive late during peak hours there would not be available parking positions at the terminal. As a result, the aircraft would need to wait until a position becomes available (these aircraft typically hold on a taxiway adjacent to the ramp). In those cases, the overall air emissions would increase from aircraft idling. The Proposed Project does not result in substantially greater impacts than the other build alternatives. Therefore, the Proposed Project is the environmentally superior alternative.

3.1.5 METHODOLOGY FOR THE AIR QUALITY AND HUMAN HEALTH RISK ASSESSMENT

Issue: *The analysis for the air quality and human health risk assessment was not adequate; local air sampling is required.*

Response: The levels of impact that are considered to be significant ("significance thresholds") are the incremental changes that a given project alternative will cause relative to the existing conditions (sometimes called "environmental baseline conditions"). For air quality analysis, those impact changes (increments) are based on both: (1) air emissions, typically presented in terms of pounds per day (lbs/day) or tons per year (tpy) and (2) air pollutant concentrations, typically presented in terms of micrograms of pollutant per cubic meter of air ($\mu g/m^3$) or parts of pollutant volume per million parts of air volume (parts per million or ppmv). For human health risk assessments, those impact changes are based on calculated risk associated with chronic (long-term) and acute (short-term) exposure to incremental (i.e., project-specific) toxic air contaminant concentrations.

Additionally, in the air quality impact analysis of pollutants which currently meet (i.e., are better than) the ambient air quality standards, the incremental pollutant concentrations associated with a given project alternative must be added to the background concentrations (i.e., the pollutant concentration that would occur without the project) and compared to the ambient air quality standards for those pollutants. If the resulting concentration for a given pollutant exceeds the ambient air quality standard, then the impact is also considered significant for that pollutant and mitigation measures must be adopted.

Therefore, the primary focus of the air quality impact analysis conducted for the Draft EIR was to: (1) define the existing conditions for a specific point or period in time; (2) determine the project-specific incremental emissions and concentrations; and (3) recommend appropriate mitigation measures. The approach for each of these steps is briefly described below.

Ambient Air Quality Measurements

Actual measurements in the vicinity of the project are used to describe existing conditions. The South Coast Air Quality Management District (SCAQMD) operates and maintains over 30 ambient air monitoring stations in the district. The nearest of these stations, the North Long Beach monitoring station (SCAQMD Station No. 072), is located approximately 1.4 miles west of Long Beach Airport's western boundary. The air quality measurements collected at this station are used to describe existing conditions in the vicinity of the Airport. Use of an existing monitoring station to describe existing conditions is acceptable for CEQA, and is standard practice for CEQA documentation in the SCAQMD (emphasis added):

> Existing Air Quality. To characterize the site-specific air quality setting, the environmental document should contain a summary of the most current air quality data. *The data must be derived from the nearest District monitoring station* located in the same source receptor area(s) (SRA) as the project…[3]

The Final Protocol for Conducting an Air Quality Impact Analysis and Human Health Risk Assessment for the Long Beach Airport (Draft EIR, Appendix C, Attachment A), a document reviewed and approved by the SCAQMD,[4,5] specifically identifies the North Long Beach monitoring station as the station that would be used to describe existing conditions.[6] The measured ambient air quality data that are used to describe existing conditions in the vicinity of the airport are presented in the Draft EIR, Section 3.2, Table 3.2-6.

The North Long Beach monitoring station also collects toxic air contaminant data. These data are presented in the Draft EIR, Section 3.2, Table 3.2-8. These data are also compared with data collected at the time of the SCAQMD *Multiple Air Toxics Exposure Study II* (MATES II) (conducted around 1998) and have been used to adjust the MATES II risk estimates in the Long Beach area from 1998 to current day. The risk estimate in Table 3.2-8 of the Draft EIR (including impacts from diesel exhaust) is used as the existing condition cancer risk level in the vicinity of the Airport.

Several commenters question the validity of using the North Long Beach Monitoring Station given its distance from the Airport. It should be noted that the monitoring station includes

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3 SCAQMD. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA: SCAQMD. Chapter 8.

4 Meeting with SCAQMD, June 22, 2005, regarding LGB Terminal Improvement Project – Draft Modeling Protocol dated May 20, 2005.

5 Personal communication. Teleconference with SCAQMD (S. Smith, T. Chico) and CDM (J. Perhson, G. Pelletier, K. Tzou), August 30, 2005, Re: Draft Modeling Protocol dated August 9, 2005.

6 Final Protocol, Section 1.4 – Existing Conditions.

impacts from the Ports[7] and the I-710 freeway, as well as impacts from the I-405 freeway, major arterial roadways (such as Long Beach Boulevard), and the Airport. Since this station was used to describe existing air quality concentrations in the vicinity of the Airport and since it includes impacts from all of these sources, the existing concentrations presented in the Draft EIR are conservative (i.e., higher than concentrations that would be measured closer to the Airport). The high, conservative existing concentrations were also used to represent the background air quality around the Airport. Using conservative background concentrations in the air quality impact analysis means that a smaller project incremental increase would result in a potential exceedance of the ambient air quality standards. Thus, using the North Long Beach monitoring station data to represent background concentrations is a conservative approach to analyzing air quality impacts for the project.

Black Carbon Measurements in the Vicinity of the Airport

One commenter provided a summary report ("AMS Report")[8] of black carbon measurements collected around the airport between September and December 2005. It should be noted that these measurements are not directly comparable to either the ambient air quality standards or the measured toxic air pollutants collected at the North Long Beach monitoring station. However, Table 1 of the AMS Report provides a summary of average black carbon readings collected in that study. The highest three readings are the three locations closest to the I-710 Freeway, north of the I-405 Freeway. Two of these three locations are described as "background" sites, sites not expected to have significant impacts from the airport. The third highest site for black carbon measurements (the LaLinda "background" site) is approximately three blocks from the North Long Beach Monitoring Station. The measurement (2.43 $\mu g/m^3$) for this site is approximately 25 percent higher than the measurement (1.92 $\mu g/m^3$) at the highest "source-impacted" site (the site that might be expected to have impacts from aircraft exhaust). This comparison implies that air quality data collected at the North Long Beach Monitoring Station are likely to be as high as or higher than measurements collected nearer to the Airport. It is also likely that the black carbon measurements presented in the AMS Report are dominated by sources other than aircraft, demonstrating the difficulty in collected airport-specific air quality impact measurements.

Several commenters claim that the AMS Report demonstrates that measured concentrations of particulate matter in neighborhoods near the Airport are orders of a magnitude higher than that used in the Draft EIR. Since the AMS Report does not present measurements for PM_{10} or $PM_{2.5}$, there is no basis for the claim regarding "orders of magnitude higher." The AMS Report does present measurements of black carbon (a component of particulate matter). The measurements collected at the "source impacted" sites (sites where impacts from the Airport might be expected) are essentially the same order of magnitude as measurements collected at the "background" sites (sites where impacts are not expected from the Airport), as shown in Figures 13 and 14 of the AMS Report. Thus, the data in the AMS Report does not indicate any order of magnitude difference, and does show higher impacts at sites nearest the freeways. The analysis conducted in the Draft EIR can be considered conservative, since it relies on North Long Beach monitoring station (SCAQMD Station No. 072, CARB Station No. 70072) data to define the existing and background concentrations. Note that this station is roughly three blocks from the LaLinda "background" site (one of the top three highest black carbon sites) in the AMS Report. Therefore, additional data collection for the Draft EIR was not necessary.

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7 The "Ports" are the Ports of Long Beach and Los Angeles.

8 Winegar, E.D., PhD. 2006 (January). *Summary Report – Community Ambient Air Monitoring: Black Carbon as a Surrogate for Diesel Exhaust Concentrations in Long Beach, California*. Fair Oaks, CA: AMS.

One commenter implies that disparities exist between the measured concentrations (assumed to mean measured black carbon [BC] concentrations in the AMS Report) and modeled concentrations, then questions how the "potential for increased risk to the community from increased airport operations" will be addressed.

Applied Measurement Science and others imply that measured data are inherently more reliable than modeled data, and therefore, more believable as a basis for decision-making. However, measured data are also subject to uncertainty, which is why the EPA established a rigorous quality assurance/quality control program for air monitoring systems. In point of fact, the commenter has provided no quality assurance or quality control information in the AMS Report to support the accuracy, precision, representativeness, or comparability of the BC measurements gathered in the vicinity of the airport. As noted in Response to Comment 179-2, uncertainties with the modeling analysis in the Draft EIR are discussed in Appendix C, Section 6 – Uncertainties.

The commenter also implies that the analysis of existing risk in the Draft EIR is based on modeled concentrations from airport sources. However, the discussion of existing health risk in the Draft EIR (page 3.2-26 and Appendix C, Section 2.2.2.3–Existing Health Risk in the Surrounding Area) is quantified based on the results of the MATES II study, a monitoring study and updated in the Draft EIR with recent air toxic monitoring data in the vicinity of the Airport. In that discussion of existing risk, the Draft EIR acknowledges that the majority of the risk is attributable to mobile sources, including those at the Airport, among many others.

The commenter assumes that: (1) the AMS Report demonstrates a relationship between the measured BC concentrations and aircraft operations and (2) the correlation between BC, elemental carbon (EC), and diesel exhaust particulate matter (DPM) developed by Fruin, et al[9] is applicable to aircraft engine exhaust. In addition, the commenter claims that: (1) concentrations presented in the Draft EIR were based on estimates from other modeling, not measurement data and (2) the North Long Beach monitoring station does not monitor $PM_{2.5}$. Starting with the latter claims first, the North Long Beach monitoring station (SCAQMD Station 072, ARB Station 70072) has been measuring $PM_{2.5}$ since 1999. Annual average and peak daily $PM_{2.5}$ measurements at north Long Beach from 1999 through 2004 are presented in Section 3.2 of the Draft EIR (Table 3.2-4, page 3.2-22) and in Appendix C (Table 2-3, page 2-11). The peak annual average and peak daily average $PM_{2.5}$ and PM_{10} measurements between 2002 and 2004 were used in the Draft EIR to represent existing $PM_{2.5}$ and PM_{10} air quality (Table 3.2-6, page 3.2-24; and Appendix C, Table 2-5, page 2-14). Therefore, representative measurements of $PM_{2.5}$ are used in the air quality impact analysis. Since ambient air quality standards have been promulgated for $PM_{2.5}$ and PM_{10} by both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (ARB), $PM_{2.5}$ and PM_{10} are the appropriate particulate matter indicator parameters to be used in the analysis. In the Human Health Risk Assessment, airport DPM emissions are the PM_{10} emissions from airport-related diesel engines (primarily in ground support equipment and cargo trucks).

With regard to the AMS Report, no well-defined relationship exists between the measured BC concentrations and aircraft operations, as detailed below:

- Reviewing the monthly wind roses presented in the AMS Report (Figures 17, 18, 19, and 20), it is clear that the prevailing wind was blowing from the west for each month of the study. Other prominent wind directions shown in these wind roses are from the northeast quadrant (with the secondary peak coming from the northeast in September and

[9] Fruin, S.A., A.M. Winer, and C.E. Rodes. 2004. "Black carbon concentrations in California vehicles and estimation of in-vehicle diesel exhaust particulate matter exposures," *Atmospheric Environment.* 38:4123-4133.

October; and from the north-northeast in November and December). For all of these wind directions, the "source-impacted" BC monitoring sites are upwind from the airport, indicating that the measured concentrations are likely coming from sources other than the airport. The wind roses suggest that the "source-impacted" BC monitoring sites are downwind from the airport no more than 15 percent of the four-month monitoring period.

- Reviewing the diurnal wind speed and direction patterns presented in the AMS Report (Figures 21 and 22), the averaged early morning wind speed and wind direction appears to show a low-speed wind blowing from the airport to the "source-impacted" BC monitoring sites through the early morning until about 9:00 to 10:00 a.m. (PST). In particular, the 7:00 to 8:00 a.m. hour indicates an average wind speed between 2.5 and 3 mile per hour (mph) and a wind direction of approximately 145 degrees (from the southeast). However, inspection of the North Long Beach hourly average wind directions[10] between 7:00 to 8:00 a.m. for the months of September through December 2005 indicates that the wind comes from the southeast quadrant less than 18 percent of the time. For this same time period, the wind is from the northeast quadrant over 52 percent of the time and from the southwest and northwest quadrants approximately 30 percent of the time. Therefore, the "source-impacted" BC monitoring sites are upwind or crosswind of the airport for the hour of peak impact (per AMS Report, Figures 13 and 15) for 82 percent of the time; again indicating other sources are the major contributors to the monitored results, particularly the broad morning BC concentration peak. Clearly, the diurnal wind patterns presented in Figures 21 and 22 of the AMS Report, which are implied to represent typical wind patterns near the airport, are not consistent with the actual wind data for the four-month monitoring period, as summarized in the wind roses of Figures 17 through 20.

- Figure 15 of the AMS Report claims to show a correlation of Long Beach Airport flights with BC measurements ("Airport BC" measurements in Figure 15 refer to data collected at the corner of Cover Street and Pixie Avenue). However, it is clear from the figure that BC values increase substantially from midnight until 7:00 a.m., even though no aircraft depart during this time period (This rise in BC values can also be seen in all of the "source-impacted" sites shown on Figure 13.). It is also apparent that the 5-minute averaged BC values in Figure 15 do not track very well with the aircraft operations between 7:00 and 9:00 a.m. For example, a fairly long period of low to zero aircraft activity occurs between about 7:30 to 8:00 a.m., yet the BC values remain high until after about 8:30 a.m. After about 9:00 a.m., the wind direction shifts to the west, wind speeds increase, and no correlation with BC values and aircraft operations is readily apparent throughout the remaining hours of the day.

- The "source-impacted" BC measurements presented in Figures 2, 3, 4, 6, and 7 cannot be compared directly with the "background" BC measurements presented in Figure 8-12 because the averaging times displayed are different. The "source-impacted" data is presented in five-minute averages, while any short-term peaks in the "background" sites have been smoothed into one-hour averages. Due to the typical log-normal distribution of air pollutant concentrations, longer averaging times lead to lower average concentrations.

- Table 1 of the AMS Report provides a summary of BC measurements for each site. Although not stated in the report, it is assumed that these are 24-hour averaged values since these values are compared to 24-hour averaged values collected at six other cities

[10] Personal communication, email from SCAQMD (K. Durkee) to CDM (J. Pehrson), February 15, 2006, Re: Hourly Measurements – North Long Beach – September 2005 through December 2005.

across the U.S., as presented in Babich, et al.[11] The AMS Report compares the mean of the eight (8) Long Beach BC monitoring sites (combined "source-impacted" and "background") with the mean found for six other U.S. cities indicating that the Long Beach 8-site mean, 2.15 micrograms per cubic meter (μg/m^3), is 44 percent higher than that for the other cities. It should be noted that the means of the 24-hour averaged BC measurements for the six other cities presented in Babich, et al.[12] ranged from 0.8 to 3.1 μg/m^3, with a six-city mean value of 1.49 μg/m^3. All of the average BC concentrations for the sites studied in the AMS Report fall within the range of mean BC concentrations reported in Babich, et al., except the "background" site on Olive Street, whose average value was above the upper range of values for the six other cities. It should also be noted that of the three sites in the AMS Report with 24-hour averaged concentrations higher than the 8-site mean, two are "background" sites (Olive and LaLinda), and the third site (LaDera) is the farthest "source-impacted" site from the Airport and the closest "source-impacted" site to the I-710 Freeway. The BC data in the AMS Report demonstrates that all but one of the 24-hour averaged BC values in Long Beach fall in the range of values reported for six other cities across the U.S., and the highest BC readings in Long Beach come from the sites closest to the I-710 Freeway. The AMS Report does not demonstrate that BC concentrations are correlated with Airport operations.

- The AMS Report appears to be trying to correlate DPM concentrations with aircraft activity by converting the BC readings to estimated DPM concentrations using a BC-to-DPM relationship developed in Fruin, et al.[13,14] This is not appropriate, primarily because aircraft exhaust is different from diesel engine exhaust, so much so that the EPA does not recommend applying health risk estimates based on diesel exhaust exposure to aircraft exhaust exposure.[15] (See also Response to Comment 2) .

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[11] Babich, P., M. Davey, G. Allen, and P. Koutrakis. 2000. "Method comparisons for particulate nitrate, elemental carbon, and $PM_{2.5}$ mass in seven cities." *Journal of the Air and Waste Management Association.* 50:1095-1105.

[12] Babich, Davey, Allen, and Koutrakis. 2000. p.1100.

[13] Fruin, S.A., A.M. Winer, and C.E. Rodes. 2004. "Black carbon concentrations in California vehicles and estimation of in-vehicle diesel exhaust particulate matter exposures." *Atmospheric Environment.* 38:4123-4133.

[14] Fruin, et al. summarize the findings of other researchers to support their development of a range of conversion factors to relate BC to DPM. As acknowledged in the AMS Report, there is no generally accepted procedure to convert measured BC concentration to DPM concentration. Fruin, et al. cite four literature references to studies published by other authors of concurrent ambient measurements of BC and elemental carbon (EC) and provide the regression equations derived from those studies. Fruin, et al. then cite a literature reference to a study of a single 1995 diesel vehicle engine with concurrent exhaust measurements of EC and DPM under a variety of engine loads. By combining the BC/EC ratio with the EC/DPM ratio in a root mean square calculation, Fruin, et al. derive a DPM/BC ratio in the range of 1.8 to 5.6. A few points should be noted about the development of this DPM/BC ratio range. First, Fruin, et al. note that the relationship between BC and EC can depend on the optical characteristics of the aerosol being measured. While they mention this as rationale for providing a range of literature values, it suggests that the BC to EC relationship is likely spatially and possibly temporally dependent. Therefore, even taking into account the range of values between BC and EC that Fruin, et. Al. present does not necessarily guarantee the accuracy of using BC measurements at a new location and time to predict EC concentrations. Second, the EC measurements made in three of the four cited references of BC and EC studies reflect the EC concentrations of aged urban aerosols, whereas the EC measurements made in the single engine study reflect the EC concentrations of fresh diesel exhaust. Therefore, without further evaluation of the literature, it appears possible that the EC measurements made in the various cited references may or may not be directly comparable. Third, Fruin, et al. provide very limited information to describe the relationships between EC and DPM for the large range of types, sizes, and uses of diesel engines that likely exist in a dense urban environment such as southern California. Therefore, at best, based on the references cited by Fruin, et al., measurements of ambient BC concentrations could be used to predict DPM emissions, not ambient concentrations, and only to the extent that a heavy-duty diesel vehicle engine is representative of all sources of DPM in a given location at a given time.

[15] Personal communication, J. Pehrson (CDM) and B. Manning (EPA), February 8, 2006.

It is not clear that any disparities exist between the measured BC data collected in the AMS Report and the measured $PM_{2.5}$ data collected at the North Long Beach monitoring station, or the modeled $PM_{2.5}$ concentrations presented in the Draft EIR. The BC measurements indicate that BC concentrations in Long Beach are not substantially different from those in other U.S. cities. The BC measurements and the wind speed, wind direction, and $PM_{2.5}$ measurements collected at the North Long Beach monitoring station indicate that major contributors to particulate matter in Long Beach are sources other than the airport. Since the modeled concentrations presented in the Draft EIR are from airport sources only in the future (2011 and 2020), it is not surprising that the modeled values do not appear to predict the existing measured values.

The commenter's emphasis on measuring the existing risk misses the point of the CEQA analysis, namely, to identify whether the Proposed Project, if implemented, would result in unacceptable incremental risks (i.e., risks that exceed the thresholds of significance identified in the Draft EIR). Results of the Human Health Risk Assessment, presented in the Draft EIR, Section 3.2 (Tables 3.2-15 through 3.2-20, pages 3.2-38 through 3.2-42) and Appendix C, Section 5, demonstrate that neither the incremental cancer risk threshold nor the incremental health index threshold would be exceeded.

Finally, with regard to the potential increase in risk from Airport operations, the City has committed to a number of mitigation measures (as presented in the Draft EIR, Section 3.2.3 – Mitigation Program, pages 3.2-50–3.2-58), including the incorporation of electric charging stations and infrastructure in the air carrier ramp design to support operation of electric ground support equipment (GSE) and other on-airport vehicles. These charging stations will allow the conversion of diesel and gasoline GSE to electric power, reducing air quality impacts from the major source of DPM emissions at the Airport.

DEIR Approach to Estimating Particulate Matter Emissions

Several commenters suggest that a network of particulate samplers, measuring black carbon, $PM_{2.5}$, and PM_{10}, should be installed surrounding the airport. It is assumed that such an exercise would measure ambient air concentrations of these pollutants to establish their current impacts in the immediate vicinity of the airport. However, the existing North Long Beach air monitoring station (SCAQMD Station No. 072), which routinely measures PM_{10} and $PM_{2.5}$, was identified in the protocol (Draft EIR, Appendix C, Attachment A) as providing representative background for these pollutants; black carbon is not routinely measured. SCAQMD reviewed the protocol and did not object to the use of this station as providing representative background data. Therefore, no additional ambient air quality data need to be collected to support the Draft EIR.

The South Coast Air Quality Management District conducted a deposition study around Los Angeles International Airport (LAX)[16] in an attempt to determine that airport's impact on local deposition. Two of the conclusions reached in that study were:

> 8.2 Fallout Mass Data Summary
>
> Mass data from the fallout filters support the observations made with the use of glass plates. If aircraft were a significant contributor to fallout in the study area, one would expect a gradient to exist with higher fallout mass values closer to the airport. This finding was not observed by the mass data. Indeed the areas of

[16] SCAQMD. 2000 (September). *Inglewood Particulate Fallout Study Under and Near the Flight Path to Los Angeles International Airport*, Report No. MA2000-05, South Coast Air Quality Management District, Monitoring and Analysis, Diamond Bar, CA.

> highest ground traffic for the most part correspond to the samples that collected the greatest mass. Samples collected east of the 405 and 110 freeways generally displayed higher mass loading than did samples collected closer to LAX. The highest mass levels were observed at Hollywood Park. There is no discernable pattern of total fallout mass under LAX's flight path which would indicate a predominant influence from aircraft fallout…
>
> 8.3 Elemental Carbon Data Summary
>
> The results for elemental carbon, derived from combustion sources, likewise do not point to a specific emissions source. The results plotted on the contour map shown in Figure 5 show the highest EC concentrations around Hollywood Park and east of both the 405 and 110 Freeways. Consistent with both microscopy and fallout mass results, motor vehicles, rather than aircraft, appear to be the significant source of EC measured in the study area since there is not an EC concentration gradient approaching LAX from the east…

Since aircraft activity at LAX is substantially greater than that at Long Beach Airport, it is unlikely that Long Beach Airport aircraft activity have a substantial impact on fallout particulate matter. Instead, re-entrained road dust from traffic traveling to and from the airport is likely to be important with regard to PM_{10} and $PM_{2.5}$ ambient air quality standards. Re-entrained road dust impacts (listed as fugitive emissions under roadways) are included in the Draft EIR. Fugitive road dust is included as a line item in the emission inventories presented in Section 3.2, Table 3.2-9 (page 3.2-27) and in Tables 3-2 through 3-6 in Appendix C, Tables 3-2 through 3-6 (pages 3-11 through 3-15). Fugitive road dust represents a substantial portion of the project-related incremental PM_{10} and $PM_{2.5}$ concentrations presented in the Draft EIR, Section 3.2, Table 3.2-13 (page 3.2-35). Please see below for additional information regarding airport deposition studies.

One commenter claims that the methods for collecting $PM_{2.5}$ do not actually collect $PM_{2.5}$-sized particulates. The City does not agree with this claim. The federal definition of $PM_{2.5}$ is (emphasis added):

> …particles with an aerodynamic diameter *less than* or equal to a nominal 2.5 micrometers…[17]

For comparison to the National Ambient Air Quality Standards for $PM_{2.5}$, particulate matter must be collected using a sampler meeting the design and performance specifications of the federal reference method[18] or with an equivalent method designated according to federal procedures.[19]

The commenter states that no methodology was included to differentiate the fraction of airport operation particulate matter from other sources (ships, trucks, and trains). This claim is not entirely correct. For the ambient air quality impact analysis, it is not necessary under CEQA to apportion the existing air quality to individual sources or source types. Once the measured existing (also used as background) concentrations are determined from data collected at the North Long Beach monitoring station, the incremental concentrations from a given project alternative are added to the background concentrations to determine the anticipated future concentrations associated with that alternative. Note that the incremental project impacts are Airport-specific, and are based on the difference in Airport concentrations between each project

[17] 40 CFR 50.7(a) (as amended July 30, 2004).

[18] 40 CFR 50, Appendix L, Section 7.0.

[19] 40 CFR 53 Subparts E and F.

alternative and the existing conditions, as documented in the Draft EIR, Appendix C, Attachment I – Airport Contributions to Criteria Pollutant Concentrations. For the human health risk assessment, the Airport-specific project incremental health risks are compared to CEQA significance thresholds, as detailed in the Draft EIR, Appendix C. Apportioning existing condition toxic air contaminant concentrations is also not required under CEQA.

The commenter claims that a report by Petzold and co-workers[20] provides an alternative method for estimating black carbon (BC) emissions from aircraft.[21] In fact, the report provides BC emission indices (in grams per kilogram of fuel burned) for one, older aircraft engine (Rolls-Royce/SNECMA M45H Mk501) at different engine loads. This data was reviewed by FAA and peer reviewers, and was rejected for use in verifying the First Order Approximation (FOA) method because the engine was not in the ICAO database (no smoke number was available for the engine), and the engine is no longer in use in today's commercial aircraft fleets.[22] As a matter of fact, the Petzold report states:

> Since the Rolls-Royce/SNECMA M45H Mk501 turbofan engine is known as emitting a huge amount of BC compared to more modern engine types, the obtained emission indices represent the upper range of mass emission indices with respect to all jet engines in service. Thus, an estimated overall emission index of 0.05 g kg^{-1} seems to be reasonable.[23]

The commenter also claims that the Petzold report provided a BC "emission factor of 84.1 grams of black carbon per take-off cycle" (assumed to mean landing and take-off cycle, or LTO). This value was not found in the report. The report does provide, in its Table 3 (included below as Table 1 of this Topical Response), a summary of fuel flow and BC emission indices (in grams per kilogram of fuel).[24]

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[20] Petzold, A., J. Strom, F.P. Schroder, and B. Karcher. 1999 (August). "Carbonaceous aerosol in jet engine exhaust: emission characteristics and implications for heteorogeneous chemical reactions," *Atmospheric Environment*. 33:2689-2698 (.

[21] In Petzold et al. (1999) the exhaust aerosol was sampled on filter substrates which were analyzed for total carbon (TC) and BC by a thermal technique (Petzold and Niessner, 1995; Petzold and Schroder, 1998); filter sampling times were < 5 minutes during the ground test studies. The applied analytical method uses solvent extraction and heating of the filter sample in an oxygen-free atmosphere to remove organic compounds from the filter sample. Subsequently, the BC content of the deposited aerosol is determined from the evolving CO_2 during sample combustion. Hence, the carbonaceous fraction can be split into an organic (i.e. soluble and volatilizable), and a BC fraction which is defined as insoluble, thermally stable up to 500°C in a non-oxidizing atmosphere, and strongly light-absorbing (Petzold and Niessner, 1995). This procedure for determining BC is substantially different than the use of an aethalometer.

[22] Wayson, R.L., G.G. Fleming, and B. Kim. 2003 (May). "Status Report on Proposed Methodology to Characterize Jet/Gas Turbine Engine Particulate Matter Emissions." (FAA-AEE-03-01). Washington D.C.: FAA, Office of Environment and Energy.

[23] Petzold, Strom, Schroder, and Karcher. 1999, 33:2695.

[24] Petzold, Strom, Schroder, and Karcher. 1999, 33:2693.

TABLE 1
SUMMARY OF FUEL FLOW AND BLACK CARBON EMISSION INDICES

A. Petzold et al. / Atmospheric Environment 33 (1999) 2689–2608 2693

Table 3
Mass concentration C_{BC} and mass emission index EI_{BC} of BC in the ATTAS exhaust (ground test) at different engine thrust levels and for in-flight conditions (FL 260), specified by the fuel flow m_f and respective air fuel ratio N; values are obtained from filter sample analysis (ground test) and size distribution analysis (in-flight)

	Thrust level (%)	m_f (kg s^{-1})	N	C_{BC} (mg m^{-3})	EI_{BC} (g kg^{-1})
Ground test					
	8	0.057	70	0.26	0.015
	19	0.1	70	0.8	0.047
	30	0.146–0.151	70	2.0–2.5	0.118–0.149
	69	0.328	60	5.4	0.272
	74	0.354	60	5.6	0.333
In-flight					
FL 260	≈30	0.151	70	1.9–2.5	0.11–0.15

One could use this data, along with the standard EPA times in mode for commercial carrier long- and medium-range jet aircraft operations (26 minutes in taxi/idle, 4 minutes in approach, 2.2 minutes in climbout, and 0.7 minute in takeoff)[25] to estimate the characteristic BC emission for a LTO. The calculated emission rate from the Petzold BC emission indices using these standard EPA times in mode is approximately 35 grams/LTO (see Table 2 below), less than one-half the value claimed in the comment. Using the 41 LTOs/day allowed at the Airport, the annual BC emissions using the Petzold emission indices are estimated to be 0.58 ton per year. Applying the FOA factor of 4 to account for both volatile and non-volatile PM in the aircraft exhaust, the annual PM emissions would be 2.32 tons per year using the Petzold BC emission indices, substantially less than the 4.12 tons per year reported in the Draft EIR for existing conditions (Table 3.2-9 in Section 3.2, and Table 3-2 in Appendix C).

TABLE 2
CALCULATED EMISSION RATE FROM THE PETZOLD BLACK CARBON EMISSION INDICES

Source	BC Emission Index (g/kg fuel)	Fuel Flow Rate (kg/sec)	Percent of rated thrust (%)	Aircraft operating mode	U.S. EPA Time in mode (min)	U.S. EPA Time in mode (sec)	BC Emissions (g/LTO)
Petzold et al. (1999)	0.015	0.057	8	Taxi/Idle	26	1560	1.33
	0.047	0.100	19	[redacted]	[redacted]	[redacted]	[redacted]
	0.149	0.151	30	Approach	4	240	5.40
	0.272	0.328	69	[redacted]	[redacted]	[redacted]	[redacted]
	0.333	0.354	74	[redacted]	[redacted]	[redacted]	[redacted]
Extrapolated to std mode[26]	0.359	0.410	85	Climbout	2.2	132	19.43
	0.423	0.482	100	Takeoff	0.7	42	8.56
						Total BC mass per LTO (grams/LTO)	34.72

[25] EPA. 1992. "Procedures for Emission Inventory Preparation. Volume IV: Mobile Sources," EPA-450/4-81-026d (Revised), Ann Arbor, MI and Research Triangle Park, NC: EPA, Office of Air & Radiation and Office of Mobile Sources and Office of Air Quality Planning & Standards. p.141.

[26] The data in Petzold et al. (1999) did not include values for ICAO takeoff (100 percent thrust) and climbout (85 percent thrust); therefore, the Petzold BC emission indices and fuel flow data were linearly extrapolated to the 85 and 100 percent levels.

In developing the estimate of aircraft PM emissions in the comment, the commenter applies a factor to convert BC emissions to diesel exhaust particulate matter (DPM). It is not clear why this conversion is necessary, since aircraft engines do not emit DPM. Aircraft engines are combustion turbines fueled on jet kerosene (Jet A), while diesel engines are compression ignition, piston internal combustion engines. Both the fuel types and the engine technologies are different in these two combustion systems, thus one would not expect the exhaust emissions to be the same. In fact, the current general consensus in EPA's Office of Transportation and Air Quality is that the respective compositions of aircraft and diesel engine exhausts, based on measurements taken to date, are sufficiently different so that health impacts associated with one (diesel, for example) cannot be directly applied to the other.[27]

Therefore, aircraft PM emissions have been conservatively and appropriately assessed in the Draft EIR.

Ultrafine Particulate Matter

As noted by one commenter, an analysis of ultrafine particulate matter is not a current regulatory requirement. No separate ambient air quality standards exist for ultrafine particulate matter beyond the national and California standards for particulate matter with aerodynamic diameters less than or equal to 10 micrometers (PM_{10}) and 2.5 micrometers ($PM_{2.5}$). Note that these standards were specifically developed to protect the public health with an adequate margin of safety.[28] In addition, no defined risk factors, beyond those developed for total diesel particulate matter (DPM) and specific toxic metals (e.g., chromium) which may be components of ultrafine particulate matter, have been developed for general ultrafine particulate matter. Comparison of project-related PM_{10} and $PM_{2.5}$ impacts with the health-based ambient air quality standards are presented in the Draft EIR, Section 3.2 and Appendix C, Section 4. Risks associated with DPM and toxic metals are addressed in the Draft EIR, Appendix C, Section 5. Ultrafine particulate matter is ubiquitous in the environment. Primary sources of ultrafine particulate matter include anthropogenic sources, such as fuel combustion (e.g., power plants, vehicles) and industrial processes (e.g., welding), and natural sources (e.g., wild fires, volcanoes, sea spray); secondary sources include atmospheric reactions of gases to form particles (e.g., transformation of nitric oxide to form ammonium nitrate).[29] The City has proposed a number of mitigation measures to reduce impacts from project-related air pollutants, including particulate matter, as discussed in the Draft EIR, Section 3.2.3 – Mitigation. These include several measures to reduce particulate matter impacts from construction equipment (MM-3.2-1, MM-3.2-2, MM-3.2-5, MM-3.2-6, and MM-3.2-9) and airport operating mobile sources (MM-3.2-12, MM-3.2-13, MM-3.2-14, and MM-3.2-15).

Aircraft PM Emissions Factors

With respect to aircraft engine exhaust emissions, it should be noted that the gaseous pollutant emission factors for carbon monoxide (CO), total hydrocarbons (THC), and oxides of nitrogen (NO_x), are based on the extensive International Civil Aviation Organization (ICAO) aircraft emissions database; and the sulfur dioxide (SO_2) emission factors are based on typical sulfur contents in jet kerosene and aviation gasoline.

Regarding aircraft engine PM emission factors, one commenter claims that only six aircraft engine emission factors from older aircraft were used to estimate emissions from the remaining

[27] Personal communication, J. Pehrson (CDM) and B. Manning (U.S. EPA), February 8, 2006.

[28] 42 USC 7409 (b)(1).

[29] Wu and Biswas. 2005. "A Summary of the 2005 Critical Review: Nanoparticles and the Environment." *EM: The Magazine for Environmental Managers.* June:33–39.

fleet. This statement is incorrect. The acknowledgement that the only available PM data for commercial aircraft engines was over 30 years old that led the FAA to work with the National Aeronautics and Space Administration (NASA), the EPA, and a host of other researchers to begin a series of PM tests on newer aircraft engines. The first set of these PM tests was conducted in 2004, and a second set was conducted in 2005. The results of the first set are available from NASA[30] and test data from the second set are being analyzed. The FAA also realized that an interim method to estimate aircraft PM emissions would be appropriate until reliable contemporary measurement data from multiple aircraft engines becomes available. Therefore, the First Order Approximation (FOA) was developed. The FOA relies on measured PM concentrations versus a smoke number from three different researchers[31,32,33] to determine the non-volatile PM mass emission rate for a given smoke number and fuel flow. The developed relationship[34] was verified with data obtained from other researchers[35] indicating that the estimate of non-volatile PM emissions from aircraft engines could be based on smoke numbers. Finally, the original FOA (Version 1) developed for non-volatile PM emissions[36] was conservatively adjusted upward (Version 2) by a factor of 4 (i.e., 4 times the original FOA values) to account for the volatile fraction of PM[37] in aircraft engine exhaust. This conservatism is noted in the part of the FAA's First Order Approximation Qualifier that was omitted (ellipsis in quote on page 2 of 6) by the commenter. The entire qualifier is presented below (emphasis added):

> First Order Approximation Qualifier
>
> The Federal Aviation Administration's (FAA) first order approximation (FOA) methodology estimates PM emissions from commercial jet-turbine aircraft engines. The FOA serves an interim purpose of meeting PM compliance issues now, while the science and accuracy of PM measurement techniques mature. The non-volatile portion of PM is based on a correlation between the Smoke Number (SN) from the engine certification test and the fuel flow for a specific mode of operation, namely take-off, climb-out, taxi/idle, and approach. For some engines, a maximum SN is conservatively used because modal-specific SNs are not available. The volatile portion of PM is derived from a limited number of field measurements and theoretical relationships. *Due to the uncertainties associated with the currently available information, the volatile PM estimates include an additional margin to be conservative.* The accuracy and applicability of the FOA

[30] National Aeronautics and Space Administration (NASA). 2005. Aircraft Particle Emissions Experiment (APEX). Available at https://particles.grc.nasa.gov/apex.html .

[31] Champagne, D.L., 1971. "Standard Measurement of Aircraft Gas Turbine Engine Exhaust Smoke," ASME-71-GT-88.

[32] Hurley, C.D. 1993. "Smoke Measurements Inside A Gas Turbine Combustor," AIAA 93-2070, Presented at AIAA/SAE/ASME/ASEE 29th Joint Propulsion Conference and Exhibit., Monterey, CA (June 28-30).

[33] Whyte, R.B., Ed. 1982. *AGARD Advisory Report No. 181 – Volume II. Propulsion and Energetics Panel Working Group 13 on Alternative Jet Engine Fuels.* North Atlantic Treaty Organization (NATO), Advisory Group for Aerospace Research and Development.

[34] Wayson, R.L., G.G. Fleming, B. Kim, and J. Draper, 2003. "Derivation of A First Order Approximation of Particulate Matter from Aircraft," Paper No. 69970, Presented at the 96th Annual Air & Waste Management Association's Conference & Exhibition, San Diego, CA (June 22-26).

[35] Wayson, R.L., G.G. Fleming, and B. Kim. 2003 (May). "Status Report on Proposed Methodology to Characterize Jet/Gas Turbine Engine Particulate Matter Emissions," (FAA-AEE-03-01) Washington D.C.: FAA, Office of Environment and Energy.

[36] Wayson, Fleming, Kim, and Draper. 2003.

[37] FAA. 2005. Memorandum from Office of Environment and Energy dated May 24, 2005. Subject: Use of the First Order Approximation (FOA) to estimate aircraft engine particulate matter (PM) emissions in NEPA Documents and Clean Air Act General Conformity Analyses.

> will be improved as future field measurements and scientific advances become available. In the future, every effort will be made to provide the statistical uncertainty for the FOA, and any subsequent studies will be structured so that the statistical uncertainty can be derived for the results. The FOA is only applicable to aircraft engines that have reported SNs and modal fuel flows. In cases where EDMS does not include aircraft PM emission estimates, use the best available information such as the following: averaging the aircraft engine PM data from AP-42 Volume II: Mobile Sources, 4th Edition, September 1995.

Further on, the commenter implies that the following statement comes from Wayson, et al. (2003)[38], "At a minimum, it is clear that the smoke number method that has been used does not represent the most current advances in measurement technology and likely does not accurately (sic) represent the actual emissions of aircraft, particularly as it relates to fine and ultrafine particles." However, the actual literature survey findings reported in Wayson, et al. (2003) are presented below (emphasis added):

- Small PM may be a health concern.
- It is a good approximation that all PM emitted by modern transport aircraft has an aerodynamic diameter of less than 2.5 micrometers. This is an important concern and controlled by the EPA health-based standards for $PM_{2.5}$ as well as PM_{10}.
- The EPA PM standards are massed based (mass/volume of air) at receptor locations. However, the engine certification process does not require the measurement and reporting of the PM mass data. A smoke number is determined during the certification process. The International Civil Aviation Organization (ICAO) has promulgated the most complete aircraft engine emission database includes the measured smoke number and fuel flow rates by engine mode. *Studies show that there is a correlation between the reported smoke number and mass emissions.*
- There is a lack of measured data to assist in the analysis to determine if an airport is in compliance with the EPA standards.
- PM are irregular in shape and often coagulate. This coagulation process results in different PM characteristics for different age plumes. This leads to a bi-modal distribution. A lognormal distribution is still appropriate for the soot component (non-volatile PM primarily containing carbon).
- PM include both volatile and non-volatile components. Soot is the most prevalent, non-volatile component. Metals are emitted, but in extremely small amounts.
- Effects on PM emission indices include fuel flow, engine design/operating conditions, altitude, and fuel composition.
- Efforts to predict emission indices, or more specific emission factors, may be characterized into four groups: simple factor, compound factor, grab samples or nearby measurements, and measurement based factors.

Wayson et al. (2003)[39] clearly states that a correlation exists between smoke number and mass emissions, then goes on to develop the FOA algorithm based on this demonstrated relationship.

[38] Wayson, Fleming, Kim, and Draper. 2003.
[39] Wayson, Fleming, Kim, and Draper. 2003.

Finally, the commenter implies that the FAA Emissions and Dispersion Modeling System (EDMS) model was inappropriate based on a Federal Register notice that removed EDMS from EPA's list of preferred regulatory air dispersion models.[40] It should be noted that the FAA requested the removal of EDMS from the list of preferred regulatory air dispersion models because EDMS is not a single model but a linked set of emission and dispersion models and algorithms. Since 2001, EDMS has used the EPA's AERMOD model for dispersion calculations; EPA approved AERMOD for general use in that same Federal Register notice. Therefore, validation studies and performance evaluations are not necessary for use of EDMS as a dispersion model because those studies and evaluations have already been completed for AERMOD. In addition, EDMS has not been removed from the Guideline on Air Quality Models. Section 6.2.4 c. of the Guideline states that (emphasis added):

> The latest version of the Emissions and Dispersion Modeling System (EDMS), was developed and is supported by the Federal Aviation Administration (FAA), *and is appropriate for air quality assessment of primary pollutant impacts at airports or air bases.* EDMS has adopted AERMOD for treating dispersion. Application of EDMS is intended for estimating the collective impact of changes in aircraft operations, point source, and mobile source emissions on pollutant concentrations….[41]

In conclusion, the best available information was used to estimate aircraft PM emissions, following current FAA guidance. The emission factors used are presented in the *Final Air Quality and Human Health Risk Assessment Protocol,* which is included as Attachment A to Appendix C of the Draft EIR. The 2005 aircraft PM emission inventories are presented in Table 3.2-9, and the incremental (i.e., changes relative to the 2005 inventory) aircraft PM emissions for each future condition are presented in Table 3.2-14 of the Draft EIR. In addition, aircraft PM emission inventories for the existing and each future condition are presented in Appendix C, Tables 3-2 through 3-6. It was noted in Section 3.1.1.3 of Appendix C that the aerodynamic diameter of PM emitted from aircraft turbine engines is smaller than 2.5 micrometers ($PM_{2.5}$). Therefore, the PM_{10} and $PM_{2.5}$ emissions rates for these aircraft engines are considered equal. No additional analyses of aircraft engine PM emissions are required for the EIR.

Air Dispersion Modeling

Once the existing conditions are determined, air dispersion modeling is required to estimate the project-specific incremental impacts since the project will be in the future. The specifics for estimating airport source emissions, modeling air dispersion, and calculating health risk are detailed in the Draft EIR, Appendix C, and the results are summarized in the Draft EIR, Section 3.2. The significance thresholds used in the air quality impact analysis and human health risk assessment are presented in Table 5-1 of the final protocol, and are copied below in Table 3 for reference:

With respect to air quality modeling, it should be noted that the FAA requested the removal of EDMS from the list of preferred regulatory air dispersion models because EDMS is not a single model but a linked set of emission and dispersion models and algorithms. Since 2001, EDMS has used the EPA's AERMOD model for dispersion calculations; EPA approved AERMOD for general use in the same Federal Register notice that removed EDMS from the list of preferred air dispersion models. Therefore, validation studies and performance evaluations are not

[40] 70 FR 68217, "Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule." (November 9, 2005).

[41] 40 CFR 51, Appendix W, Section 6.2.4 c. (as amended November 9, 2005).

necessary for use of EDMS as a dispersion model because those studies and evaluations have already been completed for AERMOD. In addition, EDMS has not been removed from the Guideline on Air Quality Models. Section 6.2.4 c. of this Guideline states that (emphasis added):

> The latest version of the Emissions and Dispersion Modeling System (EDMS), was developed and is supported by the Federal Aviation Administration (FAA), *and is appropriate for air quality assessment of primary pollutant impacts at airports or air bases.* EDMS has adopted AERMOD for treating dispersion. Application of EDMS is intended for estimating the collective impact of changes in aircraft operations, point source, and mobile source emissions on pollutant concentrations.…[42]

The specific changes to AERMOD Version 04300 as compared to AERMOD Versions 02222 and 04079 are presented below. In addition, Version 04300 includes the Plume Volume Molar Ratio Method (PVMRM) and Ozone Limiting Method (OLM) options for modeling conversion of NO_x to NO_2. Since the Long Beach Airport air quality analysis did not require special handling of NO_2, these options were not necessary. The changes and corrections noted below[43] also do not impact the results of the analysis conducted using AERMOD Version 02222; the dispersion modeling results provided in the Draft EIR would be the same whether using AERMOD Version 2222 or AERMOD Version 04300.

1. Dry depletion (DRYDPLT) and wet depletion (WETDPLT) are no longer optional for deposition applications. These options for removal of mass from the plume due to dry and/or wet deposition processes will automatically be invoked for applications in which dry and/or wet deposition are considered. The DRYDPLT and WETDPLT options on the MODELOPT card will be ignored, and need not be removed from the model input file for the model to run.

2. Correction made to area source algorithm, subroutine PLUMEF, to include a call to CRITDS to calculate the critical dividing streamline height for gaseous pollutants. Also modified PLUMEF to correct a problem with the AREADPLT option.

3. Corrections made to area source and openpit algorithms, in subroutines ACALC and OCALC, to include tilted plume for point source approximation of particle emissions, and to include reinitialization of _VAL arrays at end of receptor loop (reinitializations also included in PCALC and VCALC for point and volume sources for consistency). The latter correction fixes a potential problem with particle emissions for area sources when the point source approximation is used under the TOXICS option.

4. Corrected calling arguments for call to WAKE_SIG from subroutine WAKE_DFSN2, to use wakiz and wakiy instead of turbz and turby.

5. Minor correction made to wet deposition calculations to include lateral term (FSUBY) in weighting of direct and penetrated source contributions for WETFLUX.

6. Modified subroutine PRMCALC to place receptor on centerline of cavity plumes by setting Y2 = 0.0 for SCREEN option.

[42] 40 CFR 51, Appendix W, Section 6.2.4 c. (as amended November 9, 2005).

[43] AERMOD Version 04300 Readme.txt file. Available at http://www.epa.gov/scram001/dispersion_prefrec.htm

TABLE 3
SCAQMD AIR QUALITY AND HEALTH RISK SIGNIFICANCE THRESHOLDS

Daily Mass Thresholds		
Pollutant	**Construction**	**Operation**
Oxides of Nitrogen (NO_x)	100 lbs/day	55 lbs/day
Volatile Organic Compounds (VOC)	75 lbs/day	55 lbs/day
Respirable Particulate Matter (PM_{10})	150 lbs/day	150 lbs/day
Sulfur Oxides (So_x)	150 lbs/day	150 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Lead (Pb)	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs)		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million	
	Hazard Index ≥ 1.0 (project increment) for any specific target organ system	
Ambient Air Quality for Criteria Pollutants [a.]		
Nitrogen Dioxide (NO_2) [b.]	0.25 ppm 1-Hour Average CAAQS	
	0.053 ppm Annual Average NAAQS	
Respirable Particulate Matter (PM_{10})	10.4 µg/m^3 24-Hour Average – Construction [c.]	
	2.5 µg/m^3 24-Hour Average – Operations	
	20 µg/m^3 Annual Arithmetic Average – All	
Carbon Monoxide (CO) [b.]	20 ppm 1-Hour Average CAAQS	
	9.0 ppm 8-Hour Average CAAQS & NAAQS	

Source: SCAQMD (1993).
Notes for Table 5-1:
a. - Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
b. - SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the attainment standards listed.
c. - Ambient air quality threshold based on SCAQMD Rule 403.
lbs/day = pounds per day.
ppm = parts per million by volume.
µg/m^3 = micrograms per cubic meter.

7. Modified subroutine SRCQA to calculate equivalent XINIT and YINIT values for AREAPOLY sources to allow for calculation of area of source under TOXICS option and for PVMRM option. Also modified SRCQA to include a more refined computation of centroid for AREAPOLY sources.

8. Included check in subroutine METQA for absolute values of Monin-Obukhov length (OBULEN) less than 1.0. Adjustment of OBULEN is made to limit ABS (OBULEN) .GE. 1.0. The sign of OBULEN is assigned the opposite of the sign of the heat flux if OBULEN is 0.0. This limit on OBULEN is already applied in AERMET, so this change in AERMOD will only affect input data generated by other means.

9. Moved call to SUB. METDAT ahead of call to SUB. SET_METDATA to avoid potential problem with negative (missing) precipitation for first hour.

10. Added range check on gas deposition parameters to trap on input of zero (0.0) values.

11. Modified subroutine METQA to reduce number of extraneous warning messages, especially for hours with missing meteorological data. Also modified range check for missing wind direction in subroutine CHKMSG.

12. Modified PLOTFILE output to include date field.

13. Modifications to some debug output statements based on code provided by ENSR.

Regarding the use of Long Beach Airport meteorological data with AERMOD versus EPA's *Meteorological Monitoring Guidance for Regulatory Modeling Applications*[44] (herein referred to as Monitoring Guidance), it should be noted that the Monitoring was published in early 2000 and predates AERMOD. It was developed for cases where no reasonable representative meteorological data are available or in cases where regulations require on-site measurements to be taken. Furthermore, the Monitoring Guidance does not provide guidance on collection procedures or acceptable data for use in AERMOD. Specifically, AERMOD is designed to accept the Solar and Meteorological Surface Observational Network (SAMSON) data, through its meteorological preprocessor, AERMET.

Several commenters imply that the airport meteorological data were inappropriate for use in this regulatory modeling project using AERMOD. This statement is not supported by the EPA Meteorological Monitoring Guidance for Regulatory Modeling Applications.[45] The last paragraph of Section 6.7 of that document states (emphasis added):

> Although data meeting this guidance are preferred, *airport data continue to be acceptable for use in modeling. In fact observations of cloud cover and ceiling, data which traditionally have been provided by manual observation, are only available routinely in airport data*;…

AERMOD is designed to use upper air soundings provided in the TD6201 format. The TD6201 sounding data for San Diego Montgomery Field (Station ID 03131) was used in this analysis. This is the nearest, coastal upper air station with soundings for the same year as the surface data.

The measurement height for the profile data was consistently set at 9.4 meters. Additionally, the wind speed at the measurement height ranged from 1.1 miles per hour (mph) to 27.5 mph, while the temperature ranged from 35.1 degrees Fahrenheit (°F) to 107.1°F. The mean wind speed and temperature were 7.0 mph and 64.2°F, respectively. The mean wind direction was at 333 degrees, indicating the wind is predominantly blowing from the northwest. Information regarding the standard deviation of the wind direction fluctuations and the standard deviation of the vertical wind speed fluctuations were reported as missing in all cases. The wind direction sectors and surface parameters for the meteorological data file were set to an urban land use type. The default parameters for urban land use were selected; therefore, the albedo, Bowen ratio, and surface roughness were uniformly set to 0.2075, 1.625, and 1, respectively.

One commenter makes an extensive data request for all of the air dispersion modeling input and output. The air quality impact analysis and human health risk assessment were conducted following the protocol developed in coordination with the South Coast Air Quality Management District and California Air Resources Board, as presented in the Draft EIR, Appendix C, Attachment A – Final AQIA and HHRA Protocol. Additional modeling output is provided in this FEIR as Attachment C to these Responses to Comments. Pertinent input and output data are presented in the Draft EIR, Appendix C:

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[44] EPA, 2000 (February). *Meteorological Monitoring Guidance for Regulatory Modeling Applications*, EPA-454/R-99-005, Research Triangle Park, NC: EPA, Office of Air Quality Planning and Research. p.1-1.

[45] EPA. 2000 (February). "Meteorological Monitoring Guidance for Regulatory Modeling Applications." (EPA-454/R-99-005). Research Triangle Park, NC: EPA, Office of Air Quality Planning & Standards.

Attachment B – Hourly, Daily, and Monthly Temporal Profiles;
Attachment C – Baseline Aircraft Operations Summary;
Attachment D – 2020 Forecast Operations Report;
Attachment E – Roadway Fleet Mix;
Attachment F – Construction Emissions;
Attachment G – Meteorological Data Selection Report;
Attachment H – Receptor Locations;
Attachment I – Airport Contributions to Criteria Pollutant Concentrations; and
Attachment J – Incremental Risk and Hazard Calculations for Peak Receptors.

Since the Long Beach Airport Terminal Improvement Project does not change the Airport Noise Ordinance which limits the allowable airport activity, the operational air quality impacts are not much different between the project and no project scenarios. The only project-related air quality impacts are from construction emissions as the facilities are being built. Construction air quality impacts are summarized in the Draft EIR, Section 3.2; discussed in Appendix C, Sections 3.2.1, 4.2.1.1 and 5.6.2.4, and detailed construction emission calculations are presented in Appendix C, Attachment F. This analysis presents a good faith effort to disclose the important parameters that affect the results.[46]

Dispersion Coefficients

With respect to the dispersion coefficients for aircraft, one commenter claims that these are based on stationary sources and thus highly uncertain for moving sources. This implication is not correct. The dispersion coefficients used in EDMS/AERMOD were developed from LIDAR analysis of aircraft exhaust plume behavior on an operating airport.[47,48] As such, these coefficients represent the best available data for modeling aircraft engine exhaust plume dispersion.

Source Type

One commenter indicates that the source type being used (area sources in the case of aircraft) is a "gross approximation of the actual configuration of the emission source," and thus introduces a great amount of uncertainty. Uncertainty is inherently associated with mathematical/computer modeling of any physical phenomena, because it is often difficult to develop a mathematical model or computer algorithm that is sufficiently sophisticated to address every nuance of the physical world. This uncertainty is acknowledged in the Draft EIR, Appendix C, Section 6 - Uncertainties. As noted above, the dispersion coefficients, as well as initial source

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46 The purpose of CEQA is to compel government at all levels to make decisions with environmental consequences in mind (14 C.C.R. Section 15003[g]). CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure (14 C.C.R Section 15003[i]). An EIR is an informational document which will inform public agency decision-makers and the general public of the significant environmental affect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project (14 C.C.R. Section 15121[a]). An EIR shall identify and focus on the significant environmental effects of the proposed project. The discussion should include relevant specifics of the "…health and safety problems caused by the physical changes…" (14 C.C.R. Section 15126.2[a]). Comments [on a draft EIR] are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects….When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR." (14 C.C.R. Section 15204[a]).

47 Wayson, R.L., G.G. Fleming, B. Kim, W.L. Eberhard, W.A. Brewer, J. Draper, J. Pehrson, and R. Johnson, 2003. "The Use of LIDAR to Characterize Aircraft Exhaust Plumes," Paper No. 69965, Presented at the 96th Annual Air & Waste Management Association's Conference & Exhibition, San Diego, CA (June 22-26).

48 Wayson, R.L., G.G. Fleming, B. Kim, W.L. Eberhard, and W.A. Brewer. 2004 (February). *Final Report: The Use of LIDAR to Characterize Aircraft Initial Plume Characteristics.* (FAA-AEE-04-01/DTS-34-FA34T-LR3). Washington D.C.:FAA, Office of Environment and Energy.

height for aircraft on taxiways and runways were developed from measurements of aircraft plume behavior at an operating commercial airport. Also, it should be noted that the modeling methods used in the analysis were presented to the SCAQMD[49,50] and California Air Resources Board (ARB)[51,52] for review and comment, and comments from these agencies were incorporated into the final Protocol (Draft EIR, Appendix C, Attachment A– Final: Protocol for Conducting an Air Quality Impact Analysis and Human Health Risk Assessment for the Long Beach Airport).

Based on the responses above, the modeling process utilized for this analysis appropriately and adequately addresses the balance between prudent conservatism and wholesale erroneous overestimation while maintaining a level of accuracy that reflects the state of the art. Ambient concentrations were predicted by adding the modeled incremental scenario-related change in ambient concentrations to the existing ambient monitored concentrations or estimated future background concentrations, as described in Section 3.2 of the Draft EIR (page 3.2-6) and Appendix C (Section 4.1, page 4-1). Although the long-term trend in monitored air quality indicates that ambient pollutant concentrations are decreasing over time, it was assumed for this EIR that the monitored 2005 pollutant concentrations would be the same as the background pollutant concentrations in 2020. Ten-year trends in ambient pollutant measurements are presented in Section 3.2 of the Draft EIR (Table 3.2-4, page 3.2-22) and in Appendix C (Table 2-3, page 2-11). The estimated future concentrations in the airport vicinity are shown in Section 3.2 of the Draft EIR (Table 3.2-13, page 3.2-35) and Appendix C (Table 4-1, page 4-8; and Table 4-7, page 4-15).

Meteorological Data Set Used in the Air Quality and Health Risk Analysis

The selection of the meteorological data set for use in the DEIR's Air Quality and Human Health Risk Assessment was reviewed and approved by the South Coast Air Quality Management District (SCAQMD),[53] the primary air pollution control agency with jurisdiction over the project site. In accordance with the *Health and Safety Code*, Section 40412, the SCAQMD is the sole and exclusive local agency within the South Coast Air Basin with the responsibility for comprehensive air pollution control, and it has the duty to represent the citizens of the Basin in influencing the decisions of other public and private agencies whose actions might have an adverse impact on air quality in the Basin.[54] In its role as a commenting agency under CEQA, it is charged with advising the lead agency on appropriate methods for evaluating the air quality impacts of a proposed project. The opinions of the commenter notwithstanding, consultations with SCAQMD regarding selection and use of the meteorological data for these analyses should indeed provide the reader a high degree of comfort, since (1) the EPA's Monitoring Guidance indicated that airport data are acceptable for use in modeling; (2) the meteorological data used were collected at the Long Beach Airport; (3) the data was obtained in a format that AERMOD is designed to accept; and (4) the meteorological data used in the analysis was approved by the SCAQMD. There are no compelling reasons to collect "pre-construction" meteorological data for

[49] Meeting with SCAQMD, June 22, 2005, regarding LGB Terminal Improvement Project – Draft Modeling Protocol dated May 20, 2005.

[50] Meeting with SCAQMD, August 30, 2005, regarding LGB Terminal Improvement Project – Draft Modeling Protocol dated August 9, 2005.

[51] Personal communication, conference call with ARB (G. Honcoop, G. Harris, L. Hunsacker, J. Lerner, T. Servin), BonTerra (K. Brady, C. Krebs), and CDM (J. Pehrson, K. Tzou), June 7, 2005, regarding LGB Terminal Improvement Project – Draft Modeling Protocol dated May 20, 2005.

[52] Personal communication, telephone conversation with CARB (G. Honcoop) and CDM (J. Pehrson), June 23, 2005, regarding Aircraft Speciation Profiles.

[53] Personal communication, email from SCAQMD (T. Chico) to CDM (J. Pehrson) on September 2, 2005.

[54] SCAQMD. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA: SCAQMD. p. 2-4.

use in the modeling to support the air quality and human health risk analyses in the Draft EIR. The approach used to select the meteorological data is described in the Draft EIR, Appendix C, Attachment G – Meteorological Data Selection Report.

Several commenters state that the airport meteorological data used in the modeling should not be used since its measurements are biased due to airport activities. Although localized activities may have an effect on the meteorological data, these same activities are the sources being evaluated in this Draft EIR. As such, the airport meteorological data used in the modeling is the most representative of the location and is acceptable for use in AERMOD.

Any assertion that the meteorological data used in the preparation of the Draft EIR is unsuitable due to the continued refinement of air dispersion models is not valid. While models have changed over time, airport collection of meteorological data has not changed as a result of developments in air quality models. Models have been developed with the intent to allow the users to use available, acceptable data. As with any analysis, there are optimal tools, acceptable tools, and ill-advised tools. This analysis was performed using tools and data which are acceptable to SCAQMD which and adhere to applicable regulatory modeling guidelines. Santa Barbara County Air Pollution Control District rules are irrelevant and not applicable to this analysis. The CEQA process is not a permitting process, and even if the Proposed Project were being proposed in Santa Barbara County, that county's PSD Rule would not apply to it.

The process of meteorological data for the Long Beach Terminal Improvement Project Draft EIR is detailed in Appendix C, Attachment G – Meteorological Data Selection Report. As noted in that report, the selection of 1985 meteorological data was based on comparison of pollutants (NO_x and VOC) with different characteristics and sources; comparison of model years with different emission factors and scenarios; and comparison of different averaging periods for the same pollutant and scenario. The selection of one-hour and annual averaging periods in a given model run represent the widest variation achievable in a one-year analysis. As noted in Attachment G, the maximum one-hour and annual average concentrations for all runs occurred with the 1985 meteorological data. Therefore, it is very likely that the maximum 24-hour average concentration would have occurred in 1985 as well.

In addition, the 24-hour averaging period is associated with the ambient air quality standards (AAQS) for particulate matter (both PM_{10} and $PM_{2.5}$), and sulfur dioxide (SO_2). As is shown in the Draft EIR, Section 3.2, Table 3.2-13 (page 3.2-35) and Appendix C, Table 4-7 (page 4-15), the existing measured PM_{10} 24-hour average concentration exceeds the California AAQS, and the project incremental PM_{10} impact is above the significance threshold and unavoidable, even after mitigation. Therefore slight modifications of the results by additional modeling will not change this conclusion. The existing measured $PM_{2.5}$ 24-hour average concentration is less than (i.e., better than) the national AAQS, and the modeled project contribution to $PM_{2.5}$ concentrations would need to increase by more than a factor of 5 (or by approximately 500 percent) to exceed the national AAQS. This is not likely, based on the variation seen in the modeled results presented in Appendix C, Attachment G. The emissions of SO_2 did not exceed significance thresholds; therefore, no dispersion modeling was required for SO_2.[55]

Finally, since acute hazard indices are based on the one-hour averaging period in the model, as are the one-hour CO and NO_2 project impacts, these impacts have been adequately identified in the Draft EIR since 1985 produced the highest one-hour average of the years identified. Again, the variations in concentrations shown in Attachment G to Appendix C of the Draft EIR are not

[55] The existing measured 24-hour average SO_2 concentration is a factor of 3 lower than (i.e. better than) the California AAQS (Draft EIR, Section 3.2, Table 3.2-6, page 3.2-24). Modeling of SO_2 concentrations is typically not required unless a project's SO_2 emissions exceed the emission CEQA thresholds set by SCAQMD.

sufficient to warrant additional modeling of CO or NO_2 concentrations based on the project incremental impacts shown in the Draft EIR, Section 3.2, Table 3.2-13 (page 3.2-35).

Airport Deposition Studies

One commenter claims that re-entrained dust from aircraft operations create a "…fallout plume measurable for miles downwind in ground samples…" but does not provide any citations that demonstrate this claim. To the contrary, the airport deposition studies conducted to date have found very little evidence of aircraft- or airport-specific contaminants beyond the airport property line. Several recent studies conducted specifically around airports include:

1. Two deposition studies conducted at Boston Logan International Airport, using different methods to determine deposition and sources concluded that:

   > The deposition samples from community sites expected to be affected by aircraft operations did not differ significantly from the sample at the background site which was not expected to be affected by aircraft. The deposition sample from Runway 22, which was expected to reflect aircraft operations to the greatest degree, did not differ significantly from either the community sites or the background site. The similarities in the hydrocarbon distributions in the ambient deposition samples, and their similarity to reference data for urban contamination, suggest that the sources are not directly linked to Logan Airport, but are most likely associated with regional atmospheric sources of combustion.
   >
   > The ambient deposition samples did not contain significant levels of jet soot compared to the engine wipe sample, nor did they contain significant evidence of contribution from raw jet fuel.[56]

   and

   > It can be concluded that:
   >
   > - the method did identify airport sources of inorganic elemental deposition;
   > - the method was not interfered with by fuel oil burning; and
   > - the maximum potential contribution of airport sources to deposition in the nearby communities is 0.3 percent.57

2. A deposition study conducted at Chicago O'Hare International Airport found that:

   > …deposited particles at all of the sites monitored near O'Hare bore little chemical resemblance to either unburned jet fuel or soot from jet exhaust. Instead, the collected material was chemically similar to general urban pollution, particles from burning heavy fuels and motor vehicle exhaust.

[56] Chng, KM. 1997 (January). *Soot Deposition Study: Logan Airport and Surrounding Communities*, Waltham, MA: KM Chng Environmental Inc. p.iii.

[57] TRC. 1997 (January). *Soot Deposition Study: Logan Airport and Surrounding Communities*, Windsor, CT: TRC Environmental Corporation. p.i.

> These findings indicate that soot and oily deposits in communities near O'Hare are primarily the result of non-Airport emissions.[58]

3. In a deposition study conducted at Los Angeles International Airport which collected both metals data as well as polycyclic aromatic hydrocarbon (PAH) data, the findings were:

> The gravimetric data collected at the six monitoring stations tend to eliminate the airport as the major deposition source for the areas adjacent to the airport. The deposition rate data implicates freeway traffic for high daytime concentrations observed at the Felton Avenue School site. The nighttime concentrations data, highest at the Warren Lane School and Felton Avenue School during off-airport wind conditions implicate non-airport related particulate emissions sources to the east of the airport.
>
> The copper composition data indicates that a small fraction of the total deposition seen in the daytime is potentially from aircraft braking. The flourene [sic] found deposited on nighttime samples collected north and west of the airport, appear to [be] the result of residential wood combustion. The fluoranthene found deposited on nighttime samples collected south of the airport appear to be the result of either residential wood combustion, or road paving that was being performed near the Imperial Avenue School during the monitoring period.[59]

4. Finally, the South Coast Air Quality Management District conducted a gridded deposition study for total mass and elemental carbon fallout around LAX and concluded that motor vehicles, rather than aircraft, appear to be the major contributor to deposition.[60]

Because the major source of fallout (including metallic elemental deposition) is from re-entrained roadway dust, fugitive particulate emissions from paved roads were included in the Draft EIR. Fugitive road dust is included as a line item in the emission inventories presented in Section 3.2, Table 3.2-9 (page 3.2-27) and in Appendix C, Tables 3-2 through 3-6 (pages 3-11-3-15). Fugitive road dust represents a substantial portion of the project-related incremental PM_{10} and $PM_{2.5}$ concentrations presented in the Draft EIR, Section 3.2, Table 3.2-13 (page 3.2-35). In addition, impacts from toxic metals found in paved road dust were included in the human health risk assessment by applying the California Air Resources Board PM Speciation Profile No. 471 to the fugitive roadway PM_{10} emissions (as noted in the Draft EIR, Appendix C, Section 3.1.4). The toxic air contaminant emission inventories presented in the Draft EIR, Appendix C, Table 3-8 include toxic metals associated with re-entrained road dust.

Airport Emissions and Link with Adverse Health Effects

The following discussions are taken from a recent airport EIR[61] and are provided solely for the commenter's information.

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[58] Chng, KM. 1999 (December). *Findings Regarding Source Contributions to Soot Deposition – O'Hare International Airport and Surrounding Communities.* Burlington, MA: KM Chng Environmental Inc.. p.ii.

[59] LAWA. 2001 (January). *LAX Master Plan Technical Report – Deposition Monitoring*, Los Angeles World Airports, Draft Environmental Impact Statement/Environmental Impact Report, Technical Report 4, Attachment Z.

[60] SCAQMD. 2000 (September). *Inglewood Particulate Fallout Study Under and Near the Flight Path to Los Angeles International Airport.* (Report No. MA2000-05). Diamond Bar, CA: South Coast Air Quality Management District, Monitoring and Analysis.

"The term 'health risk assessment' is sometimes misinterpreted. A health risk assessment does not indicate whether a specific, observed health problem or symptom was caused by chemical exposure. Epidemiological studies are used to evaluate whether past chemical exposures may be responsible for actual health problems observed in real populations. Health risk assessments are used to estimate potential health impacts resulting from current or future chemical exposures in a population. In order to avoid underestimating chemical exposure, the health risk assessment prepared for the Draft EIR estimated risks for the maximally exposed individual (MEI), a hypothetical individual that lives, works, or goes to school at a location with the highest predicted concentrations of Toxic Air Contaminant (TAC) in air, and who has other characteristics, such as inhalation rate and years of exposure, that result in maximum intake of TAC. In addition, toxicity criteria used in all health risk assessments are developed to be protective of groups that may be exceptionally sensitive to a chemical, such as children and the elderly. The result is a conservative estimate of potential health impacts associated with the Project. Health risk assessment is the appropriate tool to evaluate whether estimated future emissions associated with the Project may potentially result in human health impacts."

"Health risk assessment cannot be used to link individual illnesses to past chemical exposures, nor can health risk assessments and epidemiological studies prove that a specific toxic substance caused an individual's illness.[62] It would be difficult to substantiate potential health risks estimated by risk assessment for an airport through epidemiological studies because of the typical lack of exposure information about the study population. It is necessary to understand all of the factors that may lead to an adverse effect. The population evaluated in the epidemiological study may have lived in the area for many years or just a few years. They may have had exposure to chemicals from other sources, such as work or emissions from other sources (i.e., automobile exhaust). They may have engaged in behavior such as smoking, drinking, overeating, or other lifestyle habits that increased their risk of adverse health effect. An observation of an adverse effect would not necessarily correlate with exposure to airport emissions."

"Although subject to a number of uncertainties common to epidemiological studies, these types of studies have been performed at other airports in large metropolitan areas to determine whether individuals living near airports have a greater incidence of disease than populations living in other areas. For example, the Illinois Department of Public Health examined actual cancer incidence observed in communities near Chicago's O'Hare and Midway airports between 1987 and 1997.[63] Results of the study showed no elevation in cancer incidence for all cancers combined among whites, non-whites, males and females living near the airports. Trend analysis did not indicate a higher cancer burden for populations near the airports as compared to populations living farther away. This observation held true for all cancers combined as well as site-specific

[61] Los Angeles International Airport, *Proposed Master Plan Improvements Final Environmental Impact Report (Final EIR)*, SCH No. 1997061047, April 2004. (Part II, Volume 1, Topical Response TR-HRA-2)

[62] California EPA. 2001. *A Guide to Health Risk Assessment.* Sacramento: Office of Environmental Health Hazard Assessment.

[63] Illinois Department of Public Health. 2001 (November). *Cancer Incidence in Populations Living Near Chicago O'Hare and Midway Airports, Illinois. 1987 – 1997.* Chicago: Office of Epidemiology and Health Systems Development.

cancers. A study conducted by the Washington State Department of Health (1999) provided an examination of actual cancer cases near Washington State's SeaTac airport.[64] Results of the study indicated that incidence of cancer was not statistically significantly higher for the SeaTac area."

"One of the limitations to airport epidemiological studies is that they treat living adjacent to an airport as an approximation for increased likelihood of exposure to carcinogens. This approximation would be invalid if people living near airports have a shorter duration of residence than people living further away. This lack of knowledge about the length of residence as well as the inability to assess actual exposure of individuals renders the use of distance a crude and unreliable measure of exposure. Other factors likely to impact the studies include population migration patterns, occupational exposures, and personal and lifestyle habits65 . Health risk assessment is the best method to evaluate potential health impacts for Master Plan alternatives. Epidemiological studies cannot predict future impacts associated with estimated future emissions and inherent uncertainties, as discussed above, exist for the performance and use of epidemiological studies to determine potential health impacts of living near an airport. Health risk assessments performed in the Draft EIR used up-to-date risk assessment methodologies and modeling as well as conservative measures of exposure and toxicity to provide conservative estimates of potential risk and impact associated with the Project."

"Determining the cause of a current health problem or symptom is difficult. Many factors may influence if and how severe air pollution affects human health. For example, respiratory problems and cancer may be a result of workplace exposure, environmental exposure, or some other factor (e.g., personal habits such as smoking cigarettes). Further, air quality in the South Coast Air basin is degraded by many TACs from a variety of sources, of which traffic is the largest and most important."

"Epidemiological studies have been performed for populations living near other airports. As described above under Airport Emissions and Link with Adverse Health Effects, these studies have found no evidence of increased cancer incidence in areas near Chicago's O'Hare field or Seattle's SeaTac airport. Thus, no evidence is available to corroborate general concerns about of cancer risk at or near major airports."

"Epidemiological studies differ from risk assessments in that they describe actual incidence of cancer or other adverse health effects observed in real populations, and attempt to relate health effects to specific sources or causes. Risk assessments estimate potential health impacts using environmental data and exposure assumptions (e.g., lifetime exposure). Substantiating potential health risks estimated by risk assessment for an airport through epidemiological studies is very difficult because of the typical lack of exposure information about the study population. Further, understanding all of the factors that may lead to an adverse effect is necessary to related health effects to specific causes. The

[64] Washington State Department of Health. 1999 (February). *Cancer Rates in the Proximity of SeaTac International Airport (Questions 1 and 2 of the August 1998 Work Plan).* Seattle: Office of Epidemiology.

[65] Illinois Department of Public Health. 2001 (November). *Cancer Incidence in Populations Living Near Chicago O'Hare and Midway Airports, Illinois. 1987 – 1997.* Chicago: Office of Epidemiology and Health Systems Development.

population evaluated in the epidemiological study may have lived in the area for many years or just a few years. They may have had exposure to chemicals from other sources, such as at work. They may have engaged in behavior such as smoking, drinking, overeating, or other lifestyle habits that increased their risk of adverse health effect. Simple observations of adverse effects cannot be used to establish a link between these effects and any source, including airport emissions. Given inherent uncertainties associated with epidemiological studies and the subsequent difficulties posed in trying to tie observed effects to a cause, use of approved risk assessment methodologies is the most appropriate way to evaluate potential health impacts associated with Airport emissions."

"Some reports, including ones from studies conducted in the Los Angeles area, do suggest some association between some respiratory illnesses, such as asthma and allergies, and levels of some criteria pollutants and/or TAC. Some people may be more sensitive than the majority of the population to the effects of TAC. These people are considered 'sensitive' receptors, and may include children, the elderly, people in poor health and/or those suffering from illness, such as chronic bronchitis. Sensitive individuals may form a subpopulation of people living in the Los Angeles basin that do suffer some health impacts due to poor air quality. Possible associations between illness and air quality, and the existence of sensitive individuals suggest that common sources of air pollutants could cause some health impacts at the concentrations in air found in the Los Angeles basin. However, concentrations of TAC in the vicinity of the Airport do not appear to be greater than those in other parts of the basin, according to SCAQMD studies. In fact, some of the higher pollution levels are found in areas such as Pomona and Riverside, at substantial distances from the Airport. This observation suggests that any health impacts are due to general air pollution due mainly to car and truck traffic, not single sources, such as the Airport, that would have locally greater impacts within the immediate area."

"Many TAC could, in theory, cause impacts to human health, particularly in sensitive individuals. However, not all TAC in air in the Los Angeles basin have been studied using epidemiological approaches. Possible emissions for all sources were, however, examined in the assessment of possible human health impacts prepared for the Draft EIR. In particular, jet fuel emissions were included in the evaluation in as much as tank farm emissions and emissions during fueling and aircraft operation were accounted for in the emissions inventory conducted to support the EIR. Jet fuel is composed of many compounds, and potential health effects associated with exposure to jet fuel emissions were evaluated in terms of the toxic components of jet fuel."

As discussed above under Airport Emissions and Link with Adverse Health Effects, the best available means to assess the potential for impacts to human health is a health risk assessment as performed for the Draft EIR. Results of the health risk assessment presented in the Draft EIR indicate that human health risk and hazards estimated for the Project would be less than CEQA thresholds of significance. No mitigation would be required. In 2020, implementation of the Project is likely to reduce the impact of the airport over that for current operations for residents and school children, and could result in slightly less exposure to TAC

Estimation of Incremental Health Risk Impacts in the DEIR

Several commenters imply that the "nature and severity of the Health Risk from current operations" is known and was ignored in the Draft EIR. In fact, no data exist that can begin to

separate the specific impacts, if any, of airport operations from those associated with the myriad of sources in Long Beach and the South Coast Air Basin (SCAB), in general, that affect air quality. Separation of impacts due to airport operations from those of other sources is extremely difficult because many sources in the SCAB emit similar chemicals; varying wind speeds and weather conditions complicate measurements; and amounts and timing of emissions from airport and other sources vary hourly, daily, and seasonally. Any attempt to actually measure airport contributions would require a large and long-term research study that is clearly not within the scope of CEQA requirements.

Fortunately, a useful analysis does not require the type of information envisioned in the comment. The key to this analysis is estimation of incremental impacts that might be associated with airport improvements. The modeling analysis is completely appropriate for this type of estimation, since the assumptions that go into estimation of current and future impacts are the same. Thus, the increment that might be due to changes in airport operations is likely to be reasonably accurate even if the modeling over- or underestimates total impacts. This type of analysis has been and will continue to be the most useful approach for assessment of new projects under CEQA.

The baseline conditions developed in the Draft EIR did include measured data of both criteria air pollutants and toxic air contaminants (TAC), as presented in the Draft EIR, Section 3.2, Table 3.2-6 (page 3.2-24) and Table 3.2-8 (page 3.2-26). This measured data would include contributions from all sources in the area. Data gathered for estimation of baseline conditions did not include any direct measurement of Airport contribution to total TACs in the air. As noted in the *City of Long Beach Baseline Air Quality and Noise Human Health Risk Assessment,*[66] sufficient measured air quality data are lacking and cannot be reasonably collected to differentiate airport contributions to total TACs in air.

As part of the environmental baseline conditions used in the Human Health Risk Assessment, an air toxic emission inventory was developed for airport sources, as presented in the Draft EIR, Appendix C, Table 3-8 (page 3-17). Important TAC sources associated with Airport operations evaluated include: aircraft, auxiliary power unit/ground service equipment (APU/GSE) on-Airport motor vehicles, and stationary sources such as on-site heating facilities and fuel storage tanks. TACs of concern were selected based on a comprehensive review of TACs potentially emitted from these various Airport sources. The selection of speciation profiles (TAC emission factors) used for each source type was included in the modeling protocol (presented in the Draft EIR, Appendix C, Attachment A) that was reviewed by the California Air Resources Board and South Coast Air Quality Management District. Baseline concentrations for TACs of concern <u>from airport sources</u> were then modeled based on emissions estimates and local meteorology. This approach provides the best available estimates of possible baseline impacts to air quality in neighborhoods surrounding the Airport, and thus provides the best available basis for examining possible <u>incremental</u> impacts of the future project and no project alternatives. Details of the source identification process, selection of TACs of concern, and estimation of baseline air quality impacts are defined in Appendix C, Air Quality Impacts and Human Health Risk Assessment technical report prepared in support of the Draft EIR. Additional and summary information is provided in Section 3.2, Air Quality and Human Health Risk Assessment of the Draft EIR.

Finally, one commenter claims that, due to variable meteorological conditions, multiple real-time, continuous readout monitoring stations with meteorology are required to determine health

[66] MWH Americas, Inc. and Alliance Acoustical Consultants, Inc. 2005 (February 4). *Final Report: Baseline Air Quality and Noise Human Health Risk Assessment*, prepared for City of Long Beach, Department of Health and Human Services. Long Beach: MWH and AAC.

risk. The City disagrees with this claim. Health risks, as determined by methods developed by the California Office of Environmental Health Hazard Assessment and implemented in Appendix C of the Draft EIR, are estimated based on either annual or one-hour average toxic air pollutant concentrations. As such, a year of representative hourly meteorological data observations is sufficient to estimate cancer, chronic non-cancer, and acute risks. Since the meteorological data used in the analysis was collected on the Airport (see Appendix C, Attachment G for the method used to select the meteorological data), the results of the analysis are considered reasonable. Note that in *Summary Report – Community Ambient Monitoring: Black Carbon as a Surrogate for Diesel Exhaust Concentrations in Long Beach, California*,[67] it is noted that meteorological data obtained from the North Long Beach monitoring station "is representative of area wind conditions as it is a 10 meter tower." If the North Long Beach monitoring station is representative, then so is data collected at the Airport since the sources of concern with this project are also located at the Airport.

3.1.6 NIGHTTIME NOISE VIOLATION REVIEW PROCESS

Issue: *What is the process for dealing with nighttime noise violations?*

Response: The rules pertaining to the monitoring of noise, the enforcement of the allowable noise limits, and the assessment of noise violation surcharges are contained in the City's Airport Noise Compatibility Ordinance (*Long Beach Municipal Code* [LBMC] Chapter 16.43). These rules were adopted in 1995 as part of the settlement of extensive litigation between the City and several air carriers over the City's right to control flights and noise emanating from the Airport. The Noise Ordinance is recognized as being one of the most restrictive in the country.

Under the Ordinance, air carriers are required to schedule all flight departures and arrivals such as take offs and land landings will occur between the hours of 7:00 a.m. and 10:00 p.m. The Airport Noise Compatibility Ordinance (the Ordinance) also sets certain maximum Single Event Noise Exposure Levels (SENEL) that cannot be exceeded at specified times during the day and night. For example, the maximum SENEL limit on Runway 30 between the hours of 7:00 a.m. to 10:00 p.m. is 102.5 decibels (dB) (at monitoring station 9) for departures and 101.5 dB (at monitoring station 10) for arrivals. Between the hours of 10:00 p.m. and 11:00 p.m. the maximum noise level for departures and arrivals on Runway 30 is 90 dB, and between the hours of 11:00 p.m. and 7:00 a.m. the noise limit is 79 dB for both departures and arrivals at these same monitoring stations.

Noise violations are monitored by the Airport through its Airport Noise and Operations Monitoring System (ANOMS). There are 18 monitors in proximity to the Airport that capture flight-related noise events. The information obtained by the ANOMS system identifies the time of day, the aircraft or air carrier involved, whether the flight is an arrival or departure, and the noise produced by a particular flight (i.e., SENEL). The information is provided to Airport staff on a daily basis in the form of a written report. The staff uses this information to track noise violations and to take appropriate enforcement action. The Airport reports that its violation identification rate exceeds 99 percent and a recent noise control audit resulted in a 100 percent validation of the noise analysis data as captured and reported by the Airport.

[67] Winegar, E.D. 2006 (January 30). *Summary Report - Community Ambient Monitoring: Black Carbon as a Surrogate for Diesel Exhaust Concentrations in Long Beach, California* Fair Oaks, CA: Applied Measurement Sciencep.22.

Enforcement

The penalties for violating the City's Airport Noise Ordinance are set forth in Chapter 16.43 of the LBMC. These penalties were originally adopted in 1995 as part of the settlement agreement between the City and the various air carriers involved in the federal litigation. As part of the litigation, the City proposed significantly higher penalties which were rejected by the Federal District Court. Since the adoption of the penalties in 1995, there has been no adjustment in the enforcement provisions of the Ordinance.

The Airport Noise Ordinance and its penalty provisions were adopted in an attempt to deter noise violations, to penalize willful violators, and to curtail flight operations during the late night and early morning hours (i.e., during the "curfew"). The regulatory scheme was designed to be "progressive" in nature.

The first violation by an aircraft operator results in a written notice from the Airport Manager informing him/her that a violation has occurred. The second violation also results in a written notice of violation from the Airport Manager together with a demand that the aircraft operator prepare and implement a written compliance program. The compliance program is required to contain "feasible steps, consistent with safety, by which the [operator] expects to achieve compliance with the [Ordinance] and to minimize the noise of its operations." The third violation results in a "surcharge" of 100 dollars if the violation occurs within 24 months of the requirement to prepare a compliance program, and a $300 "surcharge" is imposed for subsequent violations occurring within 12 months of date the third violation (and 100 dollar surcharge) were issued.

As a requirement of the Federal Aviation Administration (FAA) and in some cases the State, the Ordinance exempts certain types of operations from complying with the City's noise limits/curfew. These operations include flights by "public aircraft" (e.g., military aircraft); law enforcement; emergency, fire, or rescue aircraft operated by any governmental entity; aircraft used for emergency purposes during an officially declared emergency; Civil Air Patrol (engaging in actual search and rescue missions); aircraft experiencing an in-flight emergency; aircraft operating pursuant to the explicit directions of Air Traffic Control; and aircraft conducting operations in response to a medical emergency. Finally, the Airport Manager is permitted to exempt certain landings or takeoffs provided that the aircraft is conducting tests to determine whether or not a flight procedure can be conducted in accordance with the noise restrictions of the Ordinance.

Criminal Enforcement

In addition to the $100–$300 administrative "surcharges," the Ordinance also provides criminal sanctions as an alternative means of enforcement. Under the Ordinance it is a misdemeanor for any aircraft operator to exceed any established SENEL limits if the operator has reason to believe that a particular flight will not meet the applicable limit. For example, it would not be reasonable for an operator to land or take-off a fully loaded MD-80 aircraft anytime after 11:00 p.m. when the SENEL limit is 79 dB. A fully loaded MD-80 is known to produce (on average) noise at the 99.2 dB level take-off and 94.2 dB at landing, and if an operator were to fly in such a circumstance it would most certainly violate the criminal provisions of the Ordinance unless the flight was "exempt" from the application of the Ordinance (e.g., emergencies, government flight, Civil Air Patrol, etc.). Misdemeanor convictions carry a fine of up to 1,000 dollars and/or imprisonment in the county jail for periods of up to six months for each proven violation.

Consent Decree

On May 30, 2003, and on July 25, 2003, the City Prosecutor's office entered into a "Consent Decree" with, respectively, JetBlue Airways and American Airlines. Each Consent Decree was for a term of three years. The Consent Decree for JetBlue commenced on July 1, 2003, and will terminate on June 30, 2006. The Consent Decree for American Airlines commenced on June 1, 2003, and will terminate on May 31, 2006. Each Consent Decree carries an "option" period whereby the terms of the agreement can be extended in one-year increments. The Consent Decree establishes predetermined sanctions for criminal violations of the ordinance. Pursuant to the Consent Decree, JetBlue made an initial payment of $90,000 while American Airlines paid 6,000 dollars. Thereafter, each carrier is required to pay penalties in the amount of 3,000 dollars for the first six violations that occur during any given quarter. For any violations over six occurring during any quarter, each of the carriers pays $6,000 per violation.

Since the third quarter of 2003 through and including December 2005, JetBlue has incurred 75 separate penalties that are subject to the Consent Decree and American Airlines has incurred one penalty. During this time period, JetBlue has paid penalties totaling 393,000 dollars and American Airlines has paid penalties totaling 3,000 dollars. All penalties collected pursuant to the Consent Decree are required to be remitted to the Long Beach Public Library Foundation to be used solely for the purchase of library materials and books by the Long Beach Public Library.

Unanticipated Delays

The Ordinance establishes a so-called "bridge period" between the hours of 10:00 p.m. and 11:00 p.m. During this period, violations of the noise restrictions are required to be waived provided that the violations are the result of "unanticipated delays beyond the reasonable control of the aircraft owner/operator." During this "bridge period," delays caused by mechanical failure (but not routine maintenance), by weather, or by Air Traffic Control are considered to be conditions beyond the control of the operator and therefore subject to relief from the enforcement provisions of the Ordinance. In order to avail itself of this "exemption", an aircraft operator is required to provide satisfactory written proof to the Airport Manager that the late flight was the result of a delay beyond its control.

During this period, the exemptions established by the FAA/State and discussed previously in this memorandum are also in effect. For example, emergency flights; police or fire operations; or other government flights are permitted to either land or take off during the 10:00 p.m.–11:00 p.m. period without violating the Ordinance.

3.1.7 TRAFFIC GENERATION RATES

Issue: *Questions were raised on the methodology used for determining traffic related impacts.*

Response: As discussed on page 3.8-2 of the Draft EIR, it was determined that the airport traffic generation rate provided by the Institute of Transportation Engineers (ITE) Trip Generation report[68] would not be appropriate because it is based on an airport with a minimum of 150 to 200 flights per day, with a percentage of the passengers having connecting flights (and do not enter or leave the airport in a vehicle). The Long Beach Airport is unique in its flight types and differs from the ITE case studies (non-connecting flights in Long Beach), number of flights (much lower than 150 to 200), and airport operating hours. Instead, a set of specialized trip-generation rates, based upon those that were developed for John Wayne Airport and Ontario

[68] Institute of Transportation Engineers. 2003. Trip Generator (7th Ed). Washington D.C.: ITE.

International Airport, were calculated. These airports were selected because they are southern California airports with similar operating characteristics.

The John Wayne Airport study (conducted in 2001) showed the daily trip generation rate for the Average Day-Peak Month (ADPM) was 1.84 Trips/Daily Passenger, with the AM peak hour trips as five percent of daily trips, and the PM peak hour trips as eight percent of the daily trips. The Ontario International Airport study uses a formula to estimate the ADPM for non-connecting passengers, which provides an equivalent of 1.73 trips per non-connecting daily passenger in 2002, and their research further showed an eight percent peak hour factor. Thus, the two comparable studies in Southern California yield ADPM trip rates varying from 1.73 trips/ passenger to 1.84 trips/passenger and from five to eight percent of daily trips in the peak hour.

For this Long Beach Airport study, a similar estimate of daily and peak trips per passenger was made. Daily traffic volumes were taken over two days on Donald Douglas Drive west of Lakewood Boulevard. Concurrently, passenger volumes for arriving and departing flights were estimated for the same two days, using flight arrival and departure times. Using this data, the ratio of vehicle trips (in and out of the airport) per passenger was calculated for both days, and an estimate of the 7–9 a.m. and 4–6 p.m. peak periods traffic volumes were made. The resulting trip generation was 1.77 daily trips per passenger. The a.m. traffic peak hour represented approximately 6.0 percent of the daily trips and the p.m. traffic peak hour trips represented approximately 5.5 percent of the daily trips. This traffic generation factor expresses the trips with regards to the number of daily trips per passenger, but the number factors in employee trips and delivery trips as well.

> Table 3.8-1 in the DEIR provided a comparison of the three different methodologies for determining trip generation. The methodologies resulted in very similar results (within a four percent variance on a daily basis). For this analysis the Long Beach Airport trip generation, the Daily Trip Rate of 1.77 was selected, along with a six percent a.m. and p.m. peak hour factor. As shown in Table 3.8-1, the 1.77 trip rate falls between the two local studies at Ontario International and John Wayne Airports, thereby validating the use of the trip generation rates.

3.1.8 VISUAL IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT

Issue: *Several of the commenters expressed concern about the scale and layout of the proposed terminal improvements and parking structure.*

Response: Both the City Zoning Ordinance[69] and the May 7, 1991 Memorandum of Understanding adopted by the Cultural Heritage Commission and City Council[70] establish design guidelines for improvements at the Airport. With respect to building siting, or placement, the guidelines stipulate that space be maintained between the various buildings within the terminal area to avoid a wall-like appearance. With respect to building heights, the guidelines state that all new construction must (a) comply with Federal Aviation Administration (FAA) height restrictions and (b) integrate with the existing buildings. The guidelines also require that any new parking structures provide rooftop landscaping planters and observe FAA height restrictions. In addition, the guidelines specify that the overall design of any improvements in the terminal area should preserve the unique architectural features of and be in harmony with the existing historic terminal building. The conceptual designs prepared for the terminal building, as

[69] Specifically, the *Development and Use Standards for the Long Beach Airport Terminal Planned Development Plan*.

[70] Which focuses on new construction considerations for the historic Long Beach Airport Terminal Building.

presented in Exhibits 2-5 and 2-6 of the DEIR, honor and comply with these guidelines. It should also be noted that the overall footprint of proposed improvements would not be significantly greater than that of the existing on-site land uses within the terminal area, as illustrated in Conceptual Design Overlay included in Attachment A to this Response to Comments volume.

With respect to the placement of the proposed parking structure and its potential visual impacts, it should be noted that another building used to occupy most of the space where the proposed parking structure would be located. Specifically, until recently, the Executive House Hotel occupied the northeast corner of that site (refer to Attachment A to this Response to Comments, which provides an aerial photograph of the Proposed Project site in 1999). In addition, an office building which used to occupy the site just south of the hotel significantly obstructed views toward the Airport terminal building. From the 1960s through early 1990s, Rochelle's Hotel and Conference Center occupied the southwest corner of Lakewood Boulevard and Donald Douglas Drive. This two-story facility occupied the site of the current Airport Employee Parking Lot and a substantial portion of Lot C further blocking sight lines to the terminal building from Lakewood Boulevard. Attachment A also includes an aerial photo dated 1991 a view of the Proposed Project site showing Rochelle's Hotel and Conference Center. Therefore, unobstructed views from Lakewood Boulevard toward the Airport terminal have not been available historically. The Proposed Project would protect the current line of sight from the intersection of Donald Douglas Drive and Barbara London Drive. An exhibit depicting the placement of the parking structure and a line of sight to the terminal building is provided in Attachment A to these Responses to Comments. It should also be noted that the proposed parking structure would be consistent with the Long Beach General Plan's land use designations, the Long Beach Zoning Ordinance requirements, and applicable Federal Aviation Administration standards and requirements. Preliminary concept plans provide a setback from Donald Douglas Drive, which would further protect the line of sight. The preliminary concept plan is depicted in Attachment A of these responses to comments.

3.1.9 CUMULATIVE IMPACTS ANALYSIS

Issue: *The Draft EIR did not adequately address cumulative impacts. By addressing regional growth projections, the site-specific impacts were minimized.*

Response: As discussed in Section 5.3, Cumulative Impacts, the CEQA Guidelines (Section 15130[b][1]) allows either a discussion of a list of projects or a summary of projections contained in the adopted general plan or related planning document. It does not require both methods of analysis to be used; however, as stated in the Draft EIR, the cumulative impacts analyses use a combination of the two methods. The Draft EIR identified that the shortcoming of only using a listing of projects is that the projects identified would mostly be completed within five years and therefore, would not adequately consider the regional or long-term growth. The concern raised that this approach would mask the site-specific cumulative impacts is unfounded because the analysis considered both the regional growth projections and the projects in the immediate vicinity. If the analysis had only evaluated the effects of the projects identified by the local jurisdictions, the larger impacts associated with overall regional growth would not be incorporated. The methodology used ensured the impacts in the immediate vicinity of the project were adequately addressed.

As indicated in the Draft EIR, the traffic analysis which was also the basis of the long-term cumulative air quality analysis, used the traffic modeling effort developed for the Douglas Park traffic analysis. In developing the database for the Douglas Park project, not only were the regional growth projections used, an extensive list of projects was compiled based on input from the cities of Long Beach, Signal Hill, and Lakewood. This approach ensured the traffic model considered how the development was loading onto the circulation network. As part of the

Proposed Project, these jurisdictions were contacted to determine if there were any new projects being considered that would influence the study area and that should be considered as part of the cumulative analysis. The cities of Lakewood and Signal Hill each provided a list of projects. Based on our review of the projects and discussions with the cities, it was determined that these projects were either already incorporated into the Douglas Park traffic modeling effort or were within regional growth assumptions. Therefore, the listings were duplicative, not additive, to the modeling already done. Though the regional projections were used, the traffic modeling did focus on the local network. Therefore, the local traffic impacts were fully considered. Because of length of the listings, they were included in Appendix H, which was inadvertently not posted on the website, but was available through the City and is included as Attachment B to these Responses to Comments.

While the regional growth projections are most relevant for the evaluation of traffic and air quality impacts, the effects of specific projects as well as the regional growth were also considered for other topical areas. The importance of specific project and regional consideration varies by topical area. For example, as indicated in the Draft EIR, when evaluating cumulative aesthetic impacts, the proposed elements of the cumulative projects would need to be seen together or in proximity to each other for there to be a cumulative aesthetic impact. If the projects were not in proximity to each other, the viewer would not perceive them in the same viewshed. Therefore, regional growth projections would not be applicable. Even other projects which are not in close proximity to the Airport would not contribute to a cumulative aesthetic impact. For aesthetics, considerations focused on what would be seen in conjunction with the Proposed Project improvements and their affect on community character.

One area where specific projects were identified as being very important pertained to cumulative construction air emissions. The Draft EIR stated that, for there to be cumulative construction air quality impacts, there would need to be other projects under construction at the same time and in close enough proximity that the construction emissions would combine and result in cumulative impacts. The Douglas Park project was identified as being immediately north of the Airport and construction is expected to occur at the same time as the Proposed Project. Therefore, the Draft EIR concluded that there was the potential for cumulative construction air quality impacts.

For other topical areas (such as the cumulative impacts on cultural resources or hazards) the nature of the impacts associated with the Proposed Project were site specific and would not be applicable to other projects; therefore, other projects would not contribute the impacts of the same nature (i.e., impacts to the historic Terminal Building) or would be addressed through established federal, state, and local regulations.

3.2 RESPONSES TO STATE AGENCIES' COMMENTS

COMMENTER 1 DEPARTMENT OF TRANSPORTATION – DISTRICT 7
Dated: December 9, 2005

Response 1

Your comment is noted. As indicated on page 2-5 of the Draft EIR, "The key objective of the Proposed Project is to provide Airport terminal facilities to adequately accommodate the minimum number of flights provided for in the Airport Noise Compatibility Ordinance, as well as the number of passengers served by those flights." It is not the intention to provide increased capacity to serve any increase over the minimum flight levels (including the Optimized Flights Scenario) provided for in the Ordinance. The Airport Noise Ordinance allows for a minimum of 41 daily commercial carrier flights and 25 daily commuter flights. In 2003, without any commuter

flights, the Airport served approximately 3.0 million annual passengers (MAP) (page 2-5 of the Draft EIR). This is projected to increase to 4.2 MAP with full implementation of the minimum level of commercial and commuter flights. Should flight levels increase to the 52 commercial flights evaluated as part of the Optimized Flights Scenario, it is expected that 5.27 MAP would be achieved. This growth would occur with or without the project. Therefore, implementation of the Proposed Project does not trigger the need for an analysis of traffic on Caltrans facilities.

Notwithstanding the above, it should be noted that the Draft EIR includes an analysis of potential transportation/circulation impacts associated with both the Proposed Project and the Optimized Flights Scenario. As stated on page 5-12 of the Draft EIR, the traffic model used for calculating the 2020 Proposed Project impacts utilizes the growth assumptions adopted by SCAG as well as project-specific traffic data from the recently adopted Douglas Park EIR. Information regarding the trip origins to the airport passenger terminal was obtained from the City of Long Beach build-out travel demand model that was developed for the City's General Plan. The model indicated that the future trip origins will be mainly from the immediate areas and therefore the future trip origins are not expected to significantly change over time. Over and above this, and as stated on page 5-5 of the Draft EIR, planning projects from the cities of Lakewood and Signal Hill were also incorporated in the traffic analysis for the Proposed Project. By using regional growth data, incorporating project-specific and cumulative impact information from the Douglas Park EIR, and including recent projects from the cites of Lakewood and Signal Hill, the traffic analysis adequately addresses potential cumulative impacts for the Proposed Project and Optimized Flights Scenario.

Response 2

Your comment is noted. Specific measures for storm water run off would be addressed as part of the project design. As indicated on page 1-7 of the Draft EIR, the Airport has an Industrial National Pollutant Discharge Elimination System (NPDES) permit with which it must comply (CAS000001/WDID 4B19S004985). The Industrial Permit is generally more stringent than the Municipal Storm Water Permit because it treats the Airport as a point source discharge, rather than a non-point discharge. The Permit requires the Airport and its tenants to maintain a number of Best Management Practices (BMPs) and requires the Airport to conduct periodic testing of stormwater runoff. Through this program, the City would be able to identify pollutant levels in excess of established thresholds. Monitoring in past years has not identified water quality issues associated with the Airport. The requirements of this permit, which applies to the entire Airport site, would address the long-term water quality issues associated with the Proposed Project. Additionally, construction activities that disturb more than one acre would also have to abide by the State-issued Water Resources Control Board Order 99-08 General Permit CAS000002. As part of this process, the Airport would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) that identifies BMPs for the control of potential erosion, siltation, and other water quality impacts that may occur during construction.

Response 3

Your comment is noted. Standard Condition 3.8-1 is hereby modified to reflect the need for a Caltrans transportation permit for the transport of any oversized heavy construction equipment and/or materials on state highways (modification to the standard condition is underlined):

SC 3.8-1 As part of contract specification, the Airport shall require all construction trucks to access the Airport terminal area via the I-605 to I-405 and Lakewood Boulevard. <u>Should oversized-transport vehicles accessing the Project site use a state highway, a Caltrans transportation permit will be required.</u> Construction vehicles

accessing Parcel O shall use this route and access the construction site off of Clark Avenue or Willow Street.

COMMENTER 2 DEPARTMENT OF TOXIC SUBSTANCE CONTROL
Dated: December 22, 2005

Response 1

Section 3.4 of the Long Beach Airport Terminal Area Improvement Project Draft EIR addresses Hazardous and Hazardous Materials. As stated on page 3.4-1 of the Draft EIR, an environmental assessment was conducted to determine existing conditions and potential project impacts. Specifically, known discharges, investigations, and remediation activities were determined through a search of available environmental records conducted by Environmental Data Resources, Inc. (EDR) in June 2005. This search included all appropriate federal, state, and local databases and/or records for the Proposed Project, including the State of California Hazardous Waste and Substances Sites (Cortese) list. Based upon a thorough review of the EDR report, the Draft EIR concluded that 60 sites located within one-half mile of the Long Beach Airport appear on federal, state and local databases related to hazardous substances. A total of 14 incidences related to the release of toxic substances have occurred at these sites. Each of these incidents have been identified as being remediated and all cases have been closed (refer to page 3.4-14).

Although there is low potential for unknown wastes or suspect materials to be discovered during the Proposed Project, Mitigation Measure 3.4-1 requires that the Contractor develop an approved Health and Safety Contingency Plan (HSCP) prior to the initiation of demolition or construction in an effort to protect workers, safeguard the environment, and meet the requirements of CCR, Title 8, General Industry Safety Orders – Control of Hazardous Substances. The HSCP shall include measures for handling any unknown wastes or suspect materials discovered during demolition and/or construction of the Proposed Project (refer to page 3.4-19).

Response 2

As stated on page 3.4-7 of the Draft EIR, Chapter 5 of the *Long Beach Airport Certification Manual* provides documented procedures for handling hazardous materials at the Airport. These procedures address fuel handling, inspections, fueler training, corrective action, and hazardous material clean-up procedures. In addition, Section 5.2 of the *Long Beach Airport Rules and Regulations* sets forth specific requirements for the handling of hazardous materials on Airport property, including compliance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, chapter 6.5), the Hazardous Waste Control Regulations (CCR, Title 22, Division 4.5), and other regulatory and permit requirements.

As noted on page 3.4-11 of the Draft EIR, during construction of the Proposed Project some hazardous materials would be brought on site, used, and stored throughout the project area and construction lay down areas. Though the materials would be standard construction supplies (e.g., paint and fuel for generators), there would be the potential for short-term significant hazardous materials impacts associated with construction activities. Implementation of standard regulations and conditions controlling these substances would reduce the risk to a level considered less than significant. These standard regulations and conditions include the applicable state and federal regulations on the handling and storage of these materials and the Airport's Stormwater Pollution Prevention Plan (SWPPP) for the its existing Industrial Permit (CAS000001/WDID 4B19S004985) and for future Construction Activity Permits.

The Standard Conditions and Requirements listed on pages 3.4-18 and 3.4-19 require that the Proposed Project and any additional flights associated with the optimized operations scenario comply with the provisions of the *Long Beach Airport Certification Manual* and the *Long Beach Airport Rules and Regulations* pertaining to the handling, use, and disposal of hazardous materials and hazardous wastes. Furthermore, they require the Contractor to develop an SWPPP to minimize potential short-term significant hazardous materials impacts associated with construction activities; require compliance with South Coast Air Quality Management District's (SCAQMD's) Rule 1403 regarding notification and removal procedures for asbestos; require the City Engineer to verify that every contractor handling hazardous materials and/or wastes during project implementation has all necessary permits and licenses; require the Airport to prepare an SWPPP; require compliance with local and state construction and building requirements, including the Uniform Building Code; require identification and location of underground pipelines in the terminal area, ramp, or parking areas, as applicable; and require the applicant to test the soil in the Proposed Project area and, if necessary, develop a remediation program for aerially deposited lead and dicholoro-dipehnyl-trichlorethane (DDT) prior to the issuance of grading permits.

The mitigation measures on page 3.4-20 of the Draft EIR include further measures to protect public health and the environment with respect to screening and mitigation procedures for lead-based paint and contaminated soil. These specifically state that if observations indicate that site soil is affected by contaminants, demolition activities should be stopped in the area involved until an analysis of the soil conditions can be performed and additional recommendations evaluated and performed, as necessary.

Response 3

Comment noted. The commenter has correctly summarized the information provided in the Draft EIR regarding the practices that are in place at the airport for collection, recycling, and proper disposal of hazardous and California-regulated waste.

COMMENTER 3 GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
Dated: December 22, 2005

Response 1

The letter provided verification that the Draft EIR was received and distributed by the State Clearinghouse. In addition, the letter with comments from Caltrans was transmitted. The District 7 office transmitted their comments directly. These were included as part of the Commenter 1 package.

3.3 RESPONSES TO SPECIAL DISTRICTS/REGIONAL AGENCIES' COMMENTS

COMMENTER 4 COMPTON UNIFIED SCHOOL DISTRICT
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 5 SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
Dated: December 13, 2005

Response 1

The letter provided verification that SCAG received the Draft EIR and published the project description in the Intergovernmental Review Clearinghouse Report. However, no comments were provided because the project was determined not to be regionally significant per the SCAG Intergovernmental Review Criteria and CEQA Guidelines Section 15206.

COMMENTER 6 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
Dated: December 22, 2005

Response 1

The data noted by the SCAQMD were inadvertently left out of the Appendix C Attachments. These data are included as Attachment C to these Responses to Comments**.**

Response 2

The recommended mitigation measures listed in the comment are hereby incorporated into the Final EIR as mitigation to reduce the significant construction related impacts on air quality. However, the provision regarding parking of construction equipment on streets adjacent to residences, schools, daycare centers, convalescent homes, and hospitals has not been included because all construction activities and storage of vehicles would be on Airport property. As a result, this provision would not be applicable. The new mitigation measures shall read as follows and have been incorporated as MM 3-10a and MM3-10b:

MM 3.2-10a During construction of the Proposed Project, the City and its contractors shall be required to comply with the following provisions, where feasible, to reduce construction NO_x and VOC emissions:

- Provide on-site lunch trucks/facilities during construction to reduce off-site worker vehicle trips.
- Prohibit construction vehicles idling in excess of five minutes to be consistent with State law.
- Suspend use of all construction equipment during a first-stage smog alert.
- Designate a person who will ensure implementation of the proposed mitigation measures through direct inspection and investigation of complaints. The City or the contractor shall provide a telephone number that residents may call should they have complaints regarding construction nuisance.

MM 3.2-10b During construction of the Proposed Project, the City and its contractors shall be required to comply with the following provisions, where feasible, to reduce construction VOC emissions:

- Use zero VOC content architectural coatings on buildings.
- Restrict the number of gallons of coatings used per day.
- Encourage water-based coatings or other low-emitting alternatives.
- Paint contractors should use hand applications instead of spray guns.

Response 3

Your comment is noted. It should be pointed out that MM 3.2-12 on page 3.2-58 of the Draft EIR incorporates electric charging station infrastructure into the design of the aircraft ramp areas to facilitate the conversion of conventional fueled ground service equipment (GSE) and other on-airport vehicles to electric power. This is in addition to designing the air carrier ramps with preconditioned air and power from electrical units for aircraft. In addition to providing this infrastructure needed to support the airlines in complying with the GSE MOU, MM 3.2-14 requires the City to ensure all future lease and operational agreements with the airlines require the airlines to use ultra-low sulfur diesel for diesel-fueled equipment that cannot readily be converted to electrical power. This addresses the major portion of the comment pertaining to mitigating operational emissions. In addition, the following measure is hereby incorporated into the Final EIR:

> MM 3.2-16 As the City purchases new vehicles or equipment serving the Airport, staff shall consider the purchase of low or zero-emission technology, such as the use of compressed natural gas (CNG) or any other clean fuel technology available.

COMMENTER 7 LONG BEACH TRANSIT
Dated: January 6, 2006

Response 1

The commenter suggests that public transit service should be incorporated as an access alternative to and from the Airport in the future development plan. It should be noted that the Airport currently provides Long Beach Transit access to the Airport and intends to include an accessible, convenient LBT stop in any future improvements.

Response 2

The Airport is planning a “ground transportation plaza” as well as other changes in traffic circulation to facilitate multiple ground transportation services. The City will work with Long Beach Transit (LBT) to ensure that transit design guidelines are considered in the design of these areas and in the location of LBT bus stop(s).

Response 3

Your comment is noted. The Draft EIR did not identify impacts associated with the Proposed Project; therefore, the suggested activity would not be necessary or appropriate mitigation measure to be adopted as part of the EIR process. Nevertheless, the City is willing to meet with LBT to discuss the structure of this study at some point in the future.

Response 4

The Draft EIR did not identify impacts associated with the Proposed Project; therefore, the suggested activity would not be necessary or appropriate mitigation measure to be adopted as part of the EIR process. However, the City will work with LBT to develop Airport website links to the transit agency’s advanced traveler information systems (ATIS). In addition, the City will work with LBT during design to develop an appropriate plan for disseminating public transportation information.

COMMENTER 8 Long Beach Unified School District
Dated: January 30, 2006

Response 1

Your comment is noted. The statements in the EIR that the Proposed Project would not result in an increase in the number of flights allowed at the Airport are an acknowledgement that the Airport Noise Compatibility Ordinance regulates the number of flights and therefore, indirectly, the associated number of passengers. As discussed in the Draft EIR on pages 2-2 and 2-3, to resolve protracted litigation involving the Airport, the City and the airlines entered into a stipulated settlement agreement in 1995. The settlement agreement provisions were incorporated into the City's Airport Noise Compatibility Ordinance. The principle terms of the settlement included provisions for a minimum of 41 daily airline (commercial) flights and 25 daily commuter flights, all of which are assumed to be all Stage 3 aircraft. Additionally, there is the ability to increase the flight activity limits if it can be demonstrated that flights can be added without airlines or commuters exceeding their allocated portion of the CNEL noise budget based on baseline year of 1989 to 1990. As such, the ability to increase the number of flights is not related to the terminal facilities that have been provided. Refer to Topical 3.1.1 for additional details pertaining to this issue.

Response 2

With respect to noise, the Draft EIR analyzed potential noise impacts resulting from construction of the Proposed Project and operations under the Optimized Flights Scenario for all schools within the 60 CNEL contour, consistent with State standards. With respect to air quality impacts, the Draft EIR analyzed whether construction activities or operations under Optimized Flights Scenario would exceed SCAQMD thresholds. The resultant findings of that analysis are included in Section 3.2 of the Draft EIR. As noted therein, all construction and operational impacts would be very localized. That is, they would not be expected to extend beyond the Airport boundaries.

It should be noted that, although not required, the Draft EIR analyzed the Proposed Project's potential impacts to all sensitive receptors (including schools) within a four kilometer (2.6 mile) radius of the Airport. To be conservative, the four kilometers was selected because it extends beyond the 60 CNEL. Schools located beyond the 60 CNEL would not be expected to have noise impacts that would be disruptive to school activities. The commenter should refer to each section of the DEIR (e.g., air quality, noise, etc.) for detailed information.

Response 3

As stated on page 3.5-2, the DEIR provides an analysis of the Proposed Project's potential air quality impacts on sensitive receptors. All schools within a four kilometer (2.6 mile) radius of the Airport were treated as sensitive receptors for the purpose of environmental impact analysis across all topical areas (e.g., air quality, noise, hazardous and hazardous wastes, etc.).

Response 4

The Proposed Project is for improvements in the terminal, ramp, and parking areas at Long Beach Airport. The number of flights that could occur at the Airport will be based on air carrier decisions to optimize flight operations under the Airport Noise Compatibility Ordinance, rather than the availability of specific terminal facilities; therefore, no discretionary action would be associated with the air carriers' decision to offer additional flights, within the limits of the Ordinance, at the Airport (refer to Topical Response 3.1.1). Implementation of the Proposed

Project would not result in direct or indirect impacts relative to school siting, upgrading, or expansion. As such, it is not appropriate for the EIR to include an evaluation of the Proposed Project's impacts on these issues.

Response 5

As noted on page 1-2 and throughout the Draft EIR, the Proposed Project would provide improvements to the existing Airport Terminal Building and related facilities at the Airport in order to accommodate recent increases in flight activity at the Airport consistent with operational limitations of the existing Airport Noise Compatibility Ordinance and the 1995 Settlement Agreement. It should be noted that an extensive effort was made during the scoping process to address the appropriate sizing of the terminal area facilities. As summarized in the Draft EIR (Section 2.4, Project History), the Airport Advisory Commission (AAC) conducted a series of 15 public meetings on the size of the proposed improvements and the scope of the EIR. To support that effort, HNTB prepared a study report that considered a number of factors and made recommendations on the proposed improvements[71] (*Facility Requirements Analysis, Long Beach Municipal Airport*, 2004). Factors considered included the number of flights, the number of passengers served, the type of flights (i.e., short-haul and long-haul trips), and industry standards. Based on this scoping and outreach process, the AAC made a recommendation to the City Council on the size of the improvements, which was approximately 133,000 square feet of terminal area. The City Council decided to reduce the maximum size of the facilities. The largest alternative evaluated in the Draft EIR was the Proposed Project, which would provide 102,850 square feet. These improvements were sized to serve the minimum 41 commercial flights and 25 commuter flights provided for in the Airport Noise Compatibility Ordinance and would not provide excess capacity to serve expanded flight levels.

As indicated on page 2-6 of the Draft EIR, while the Proposed Project does not propose any changes to the Airport Noise Compatibility Ordinance or other means of directly increasing flight operations at the Airport, it was determined that the EIR should assess the impacts associated with the full utilization of the 25 commuter flights provided for under the existing terms of the Airport Noise Compatibility Ordinance even though, at the time the Notice of Preparation (NOP) was issued and the baseline for this EIR was established, there were no commuter operations at the Airport. Currently, four commuter flights are being offered at the Airport -- one by US Airways (America West) and three by Delta. It is anticipated that full utilization of the remaining 21 commuter slots will occur within the next few years. Therefore, the analysis of the Proposed Project reflects the 41 commercial flights that are currently operating at the Airport, as well as the 25 commuter flights because they are allowed under the Airport Noise Compatibility Ordinance and will likely occur within the foreseeable future.

The comment requested that the Draft EIR substantiate the fact that operational procedures, including safety procedures, will not be affected by the increased flight operations and changes in vehicle movements. The Proposed Project is limited to facilities improvements; however, the Draft EIR also evaluated the potential impacts associated with 11 additional commercial flights and concluded that no significant hazards and hazardous materials impacts would occur. This is explained on page 2-17 of the Draft EIR and identified as the Optimized Flights Scenario. Additionally, please see Topical Response 3.1.1. To avoid confusion in the Draft EIR, the impact analysis for each topical section was broken out into three categories: Construction Impacts, Proposed Project Impacts, and Additional Effects Related to Optimized Flights. No significant hazards and hazardous materials impacts were identified. It should be noted that neither the Proposed Project nor the Optimized Flights Scenario would change operational procedures or the types of aircraft that are served at the Airport. Furthermore, neither would result in

[71] HNTB. 2004. Facility Requirements Analysis Long Beach Municipal Airport. Los Angeles: HNTB.

conditions that would crowd the runways at or airspace around the Airport and, thereby, increase the likelihood of an incident. Consequently, no impacts with respect to safety hazards would be expected.

Response 6

Even though there were no commuter operations at the Airport at the time the NOP was issued and the baseline for the Draft EIR was established, the EIR assesses the impacts associated with the full utilization of the 25 commuter flights that are provided for under the existing terms of the Airport Noise Compatibility Ordinance. The Proposed Project is not designed to support the Optimized Flights Scenario (refer to Topical Response 3.1.1).

Subsequent to the issuance of the NOP, America West initiated one commuter flight slot and Delta initiated three commuter flight slots. Although Smooth Holdings was allocated 19 commuter flight slots subsequent to the issuance of the NOP, Smooth Holdings withdrew its request to initiate service at the Long Beach Airport. There is no present expectation that more than five commuter slots will be operated during the remainder of calendar year 2006 (Delta has requested, and is expected to be granted one additional commuter slot in addition to the three currently allocated to that carrier).

It is anticipated that full utilization of the remaining 21 commuter slots will occur within the next few years. Therefore, the analysis of the Proposed Project reflects the 41 commercial flights that are currently operating at the Airport, as well as the 25 commuter flights because they are allowed under the Airport Noise Compatibility Ordinance and will likely occur within the foreseeable future. Contrary to the commenter's stated opinion, no discretionary action would be associated with the air carriers' decision to offer additional flights, within the limits of the Ordinance, at the Airport (refer to Topical Response 3.1.1)

It should be noted that an EIR was prepared in 1986 to set up the Airport Noise Compatibility Ordinance; this was later updated with the Negative Declaration which the commenter references.

Response 7

The commenter is correct in that the consistency analysis for the South Coast Air Quality Management Plan (AQMP) Criterion 1 should state that the Optimized Flights Scenario (but not the Proposed Project) would not be consistent with the AQMP for the first criterion. However, it should be noted that the Proposed Project, which would be limited to construction of improvements in the Airport terminal area, parking area, internal roadways, and Parcel O, would not increase the severity or frequency of violations and is, therefore, consistent with the AQMP for the first criterion. Although as identified under Impact 3.2-1, construction of the Proposed Project would result in short-term air quality impacts, such impacts, because of their temporary nature, are not considered to cause or contribute to air quality violations. Additionally, long-term air quality effects are lower with the Proposed Project and the Proposed Project is, therefore, consistent with the AQMP.

As stated in Section 2.7 of the DEIR, the EIR addresses the potential impacts associated with the maximum flight levels that could possibly occur at the Airport under the provisions of the current Airport Noise Compatibility Ordinance - with or without the Proposed Project (*i.e., "optimized flights")* given the current fleet mix and the assumption that airlines would continue operating within current markets. These flight levels could occur without implementation of the Proposed Project and are, therefore, not causally related to the Proposed Project.

Notwithstanding this fact, the impacts associated with the Optimized Flights Scenario are specifically called out under Impact 3.2-2 in the DEIR.

Response 8

The comment recommends that the following standard conditions be listed, rather, as mitigation measures: SC 3.4-4, SC 3.4-5, SC 3.4-8, SC 3.4-9, SC 3.7-3, SC 3.7-4. The recommended changes are hereby incorporated in the Final EIR. It should be noted that all elements of the mitigation program (project design features, standard conditions and requirements, and mitigation measures) shall be incorporated into the Mitigation Monitoring Program. The revised numbering for the mitigation program is as follows:

Old Number	New Number
SC 3.4-4	MM 3.4-5
SC 3.4-5	MM 3.4-6
SC 3.4-6	SC 3.4-4
SC 3.4-7	SC 3.4-5
SC 3.4-8	MM 3.4-7
SC 3.4-9	MM3.4-8
SC 3.7-3	MM 3.7-1
SC 3.7-4	MM 3.7-2

Response 9

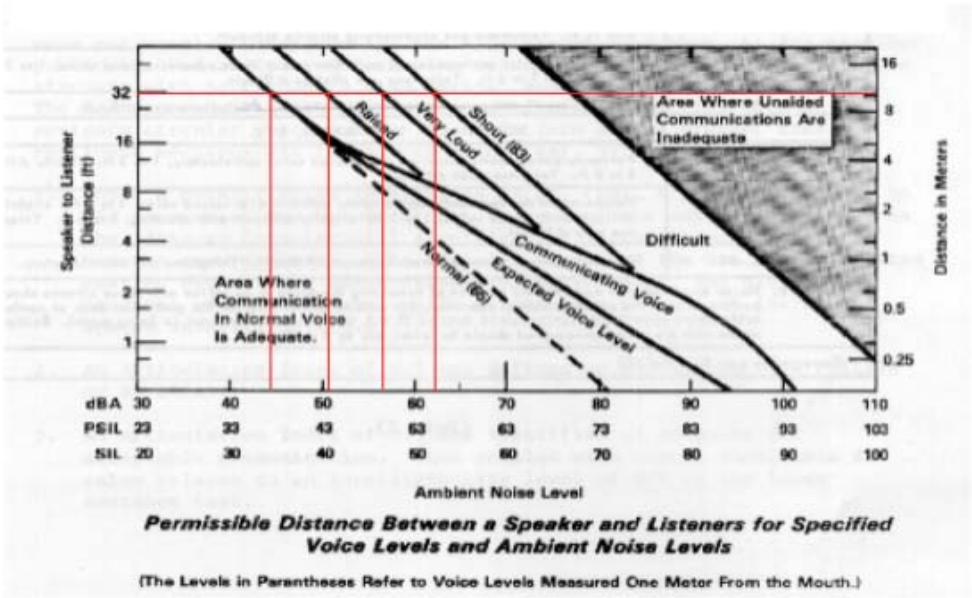
As stated on page 3.5-2, the Draft EIR includes an analysis of the Proposed Project's potential air quality impacts on sensitive receptors. Although not explicitly stated, the Draft EIR also includes an analysis of the Proposed Project's potential noise and hazards and hazardous waste impacts on sensitive receptors. The 53 schools listed in Table 3.5-1 and the 23 hospitals mentioned on page 3.5-4 were all treated as sensitive receptors, consistent with their designation as such in the Land Use section of the Draft EIR. The addresses of the school facilities have all been provided to allow members of the public to readily ascertain the location of the schools and other sensitive receptors. For your convenience, Exhibit 5-1 from Appendix C has been provided that depicts the location of these facilities (see Attachment D in these Responses to Comments).

Response 10

The comment refers to Exhibit 1-5 of Appendix F and relates to normal conversation voice level in a classroom environment. The first commenter's assertion is that the normal conversational speech level at 65 dBA refers to a distance of 2 feet. The distance assumption for normal conversation is 1 meter or 3.3 feet (See Exhibit 1-5 of Appendix F). The commenter continues to describe the background level (50 dBA) that would interfere with speech at a shout level from a distance of 32 feet. Exhibit 1-5 is shown below as Exhibit 1 with red lines highlighting the background noise levels that would permit speech communication at a distance of 32 feet. It shows that for a normal conversational voice, the background level can be 45 dBA; 51 dBA for a raised voice; 56 dBA for a very loud voice; and 63 dBA for a shout. In a classroom setting a teacher, or any speaker before a group of 30 or more, would not be expected to use a normal conversational voice that one would use talking to someone 3 feet away. A raised voice is expected in such a situation independent of background noise. Further, it should be noted that Exhibit 1 is based on continuous noise, such as traffic, an air-conditioner, etc., not an intermittent noise source such as an airplane flyover. Intermittent noise has a lower effect on speech interference. The EPA studied this effect as described in Reference 1 of Appendix F (see Appendix D of EPA 'Levels Document'). Here, the EPA concludes "that almost all time-

varying environmental noises with the same Leq (Sound Energy Equivalent Noise Level) would lead, averaged out over long time periods, to better intelligibility than the intelligibility for the same Leq values of continuous noise." Exhibit 2 below from Appendix D of the Levels Document shows this effect and the corresponding low level of indoor speech interference. From these studies, the EPA and most land use planning guidelines recommend using a measure of cumulative noise exposure, not single event noise levels, to assess noise impacts. In the case of the EPA and FAA, the recommended metric is (DNL) Day-Night Noise Level, a metric similar to the metric CNEL used in California. The commenter attempts to develop a single event noise standard, but such a standard has not been adopted or recommended by any regulatory agency. In the absence of any classroom single event noise criteria recommended or adopted by any regulatory agency, and in an abundance of caution, the Draft EIR recommends a mitigation measure (sound insulation) for schools within the 60 CNEL contour, even though 65 CNEL is the more commonly used standard for noise sensitive uses.

EXHIBIT 1PERMISSIBLE DISTANCE BETWEEN A SPEAKER AND LISTENERS FOR SPECIFIED VOICE LEVELS AND AMBIENT NOISE LEVELS



Permissible Distance Between a Speaker and Listeners for Specified Voice Levels and Ambient Noise Levels

(The Levels in Parentheses Refer to Voice Levels Measured One Meter From the Mouth.)

EXHIBIT 2
OUTDOOR DAY NIGHT AVERAGE SOUND LEVELS

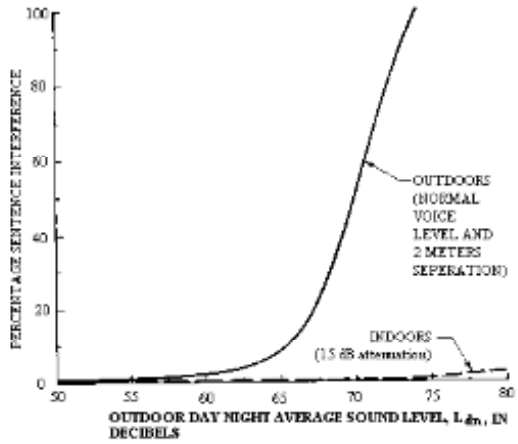


Figure D-4. Maximum Percentage Interference with Sentences as a Function of the Day-Night Average Noise Level.

Source: "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare With an Adequate Margin of Safety, EPA, 1974

The specific changes to AERMOD Version 04300 as compared to AERMOD Versions 02222 and 04079 are presented below. In addition, Version 04300 includes the Plume Volume Molar Ratio Method (PVMRM) and Ozone Limiting Method (OLM) options for modeling conversion of NO_x to NO_2. Since the Long Beach Airport air quality analysis did not require special handling of NO_2, these options were not necessary. The changes and corrections noted below[72] also do not impact the results of the analysis conducted using AERMOD Version 02222; the dispersion modeling results provided in the Draft EIR would be the same whether using AERMOD Version 2222 or AERMOD Version 04300.

Response 11

While the comment may be true for some construction sites, the situation with the Long Beach Airport will not involve use of multiple pieces of heavy equipment at the same time. For example, Parcel O is quite small and it is not expected that more than one mass grader or front loader would be operating at the same time. The same is true for the parking structure. The comment reference to the air quality analysis is irrelevant since air quality emissions are summed over the day, while the noise ordinance limits noise at any given instance. If one were to assume all of the equipment shown in Table 3.6-7 were operating at once (even though one would not expect a front loader and concrete mixer to operate at the same time as concrete is not poured while grading is being done), the total noise at the nearest receptor would be 55.2 dBA, or 3 dBA louder than the loudest single piece of equipment shown in Table 3.6-7. This represents an increase in noise level that would be barely perceptible to an average person. This would represent the noise level from the nearest edge of the new parking structure to the nearest homes. Parking structure construction will not be done at night.

[72] AERMOD Version 04300 Readme.txt file. Available at http://www.epa.gov/scram001/dispersion_prefrec.htm

Response 12

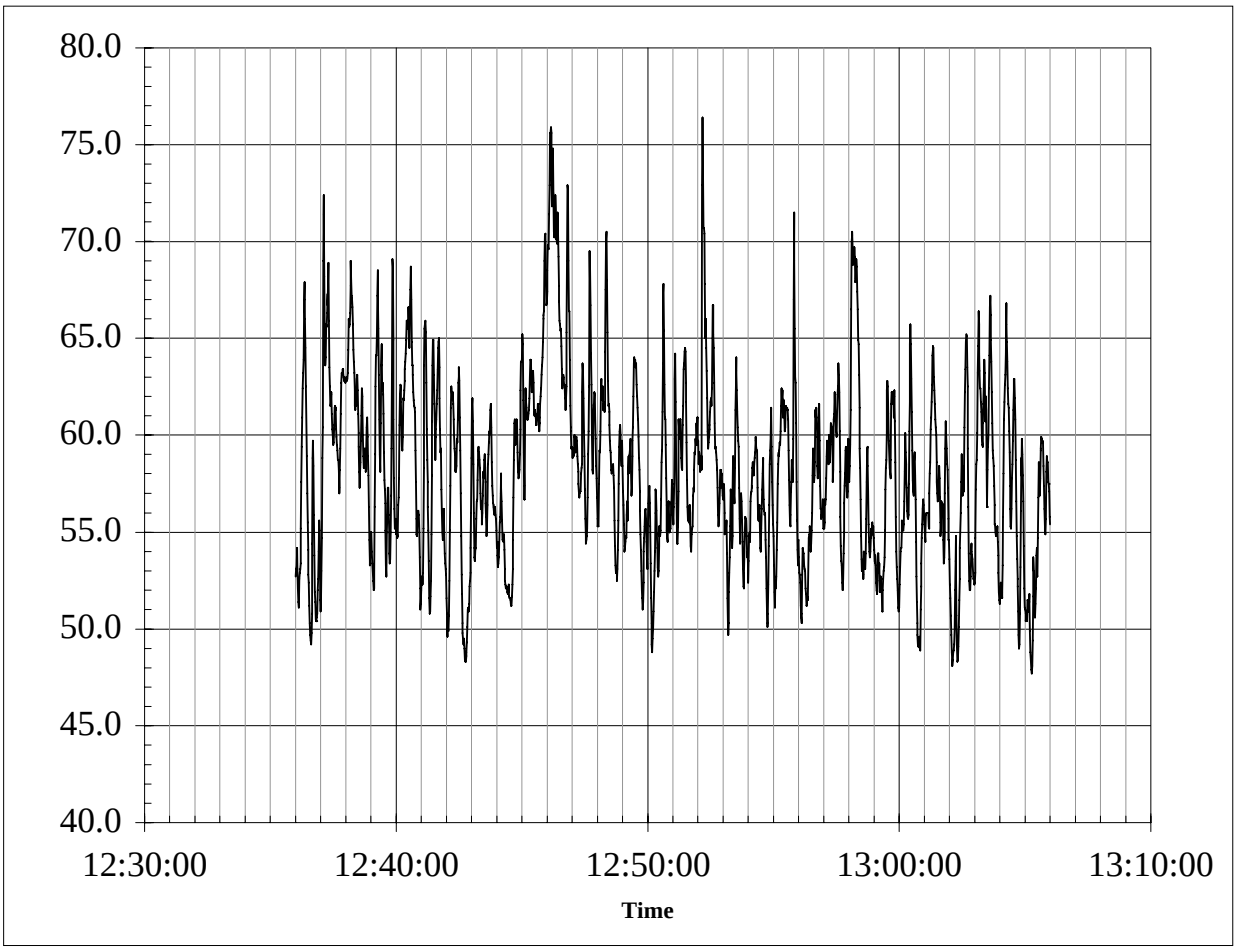
The data in Table 3.6-7 are from the nearest edge of the parking structure to the closest homes. That construction will not occur at night. Further, the data shown in Table 3.6-7 are the maximum noise levels of the identified equipment. Only the jackhammer has a noise level above the 50 dBA daytime limit, but the 50 dBA daytime limit is a noise level not to be exceeded more than 30 minutes in one hour with a maximum noise level not to exceed 70 dBA. The jackhammer is not operated continuously, but is cycled on and off. The jackhammer will not exceed the 70 dBA daytime maximum permitted. The new parking structure is being built in an area where there are no existing buildings and no building demolition will be done. Existing pavement will be removed with tractor-mounted equipment like a backhoe and front loader. Therefore minimal jack-hammering is expected and that only associated with utility connections or other small pavement breaking jobs. Therefore, it was concluded that the noise ordinance limits will be met. Further, the noise ordinance daytime limit of 50 dBA is lower than the existing ambient noise levels. Existing ambient noise levels due to traffic on Clark Avenue and Lakewood Boulevard exceed the noise ordinance limit and the noise level of any and all construction equipment that will be used on the project. Ambient noise measurements were made on February 22, 2006, at 3360 Clark Avenue. This is the location of the closest homes to the proposed construction site. Measurements were made using a Class 1 Precision Sound Level Meter for a 30 minute period beginning at 12:35 and ending at 1:06 p.m. This is a midday measurement that included primarily traffic noise. Higher traffic noise levels would be expected during the morning and afternoon peak period. The measured ambient noise levels were as follows:

Leq	61.6 dBA
L50	58.1 dBA
L25	61.4 dBA
L8.3	65.3 dBA
L1.6	70.5 dBA
Lmax	76.4 dBA

A chart of the noise level during this ambient noise measurement is shown below as Exhibit 3. The construction noise will be lower than ambient noise levels. The instrument and calibration used for this measurement was a Bruel and Kjaer Model 2236 Precision Sound Level Meter (s/n 1314278 with microphones s/n 2008581 and Bruel and Kjaer Sound Calibrator s/n 1719782). The meter and calibrator are within certification.

Note that night construction may occur at the terminal building, but this is farther away and shielded by the existing parking structure.

EXHIBIT 3
AMBIENT NOISE MEASUREMENTS



Response 13

The Comment includes a 'Figure 1' which shows that no schools are within the 65 CNEL contour, and as concluded in the Draft EIR, there are 2 LBUSD sites that are exposed to noise levels above 60 CNEL. The comment states that the "EIR methodology needs to beyond the use of a simplistic 65 dBA CNEL noise significance threshold …" The Draft EIR did go beyond the 65 CNEL for evaluating school impacts and includes a mitigation measure for schools located with a potential noise exposure greater than 60 CNEL. It should be noted that there are no other school noise standards expressed in other noise metrics that have been adopted by state or federal agencies or by the Long Beach Unified School District (LBUSD). It should also be noted that the commenter's statement that the Optimized Flights Scenario would increase the magnitude of noise from each aircraft flyover is incorrect. The basic premise of the Optimized Flights Scenario is that the airlines would have to reduce the noise associated with flights through the use of quieter aircraft and less night time flights.

Response 14

The comment reference to the Optimized Flights Scenario implies an across-the-board increase in the number of today's noise events. The Optimized Flights Scenario cannot occur with some of the noisier aircraft in today's fleet. In order for the commercial air carrier flights to increase

from 41 to 52 flights, the noisier aircraft would have to be replaced by quieter aircraft. It is not a matter of just supplementing today's aircraft; the noisier aircraft must be replaced before additional aircraft can be added. Consider the single event noise contour for a departure of the hush kit B727 (Draft EIR Exhibit 3.6-11b, bottom left corner). This aircraft must be replaced in order to get the 11 additional flights. This same exhibit shows in the top two charts that the single event contours for the A320 (the aircraft JetBlue operates, and a likely candidate for the additional flights). The difference is dramatic and while the number of commercial air carrier flights would increase by 11 flights, the noise level for these flights is dramatically lower. In terms of the 25 commuter flights, these are permitted now and are not affected by the project. The jet aircraft that meets the definition of a commuter flight in the Long Beach Ordinance is the smaller regional jet aircraft. The departure single event contour for that aircraft is shown in Draft EIR Exhibit 3.6-11a, top right corner (the CL601 is the Canadair Challenger which is the business jet version of the Canadair Regional Jet). While these commuter flights may or may not ever be realized, their noise level is much lower than the existing commercial air carrier operations and will not have the effect of the existing air carrier operations. The commenter referral to the change in number of operations is not relevant without looking at the change in noise level for the quieter aircraft and the much lower noise levels for the commuter regional jets.

Response 15

A myriad of noise metrics have been developed and studied for assessing noise impacts. The only metrics which have been correlated with annoyance is DNL (CNEL in California). CNEL is the only metric for which there are standards of acceptability and land use planning guidelines. The Draft EIR does not present only CNEL data, but also presents single event noise data in the form of single event noise contours (Draft EIR Exhibits 3.6-10a and 3.6-11b and 3.6-11a and 3.6-11b). The single event contours are intended to help the reader understand the noise levels associated with individual events.

Response 16

The comment does not accurately describe the change in noise level due to the Optimized Flights Scenario and the comment again assumes that the project is responsible for achieving the Optimized Flights Scenario. The Optimized Flights Scenario can be achieved without the project. The change in noise level associated with the Optimized Flights Scenario is much more complex than the comment indicated. First, the noise contours get smaller north of the airport and larger to the south as a result of the changes in the type of aircraft used in the Optimized Flights Scenario. Because of the land use patterns around the airport, the number of people within the 65–70 and 60–65 CNEL contours decreases with the Optimized Flights Scenario. Table 3.6-9 of the Draft EIR shows that, for the Optimized Flights Scenario, the number of residences in the 65–70 CNEL contour decreases from 15 to 11. In addition, the number of residences in the 60–65 CNEL contour decreases from 1,890 to 1,791. There will be fewer people highly annoyed, not an increase as stated in the comment.

Response 17

The comment contends that the "DEIR does not fully address the additional noise impacts from the increase in single-event aircraft flyovers on interior and exterior areas of noise-sensitive uses." Again the comment implies that the increase in flights that <u>may</u> occur with the Optimized Flights Scenario is a result of the project. Again, the Optimized Flights Scenario can occur without the project. They are not related. Further, the comment fails to recognize that the Optimized Flights Scenario can only be realized if the single event noise levels go down (see Response 5 above). If the single event noise levels do not go down, no additional air carrier

flights can be added. The 25 commuter flights can be added at any time, but by definition the commuter flights will consist of the quietest aircraft types. The Figure attached to the comment shows the single event contours for the loudest aircraft types, the B727 and MD80 on departure and the B767 on arrival. There can be no additional flights and the Optimized Flights Scenario cannot be realized if the B727 and the MD80 aircraft remain in the fleet. These are the precise aircraft that have to be replaced if the Optimized Flights Scenario is to be realized. The B727 and B767 are cargo aircraft and are not used for passenger service. As such, their flight times do not occur during the school hours. During the 2004–2005 Budget Year (October through September), there was a total of 1 flight arriving from the north between the hours of 8 a.m. and 4 p.m. and a total of 13 arrivals from the south during the hours of 8 a.m. and 4 p.m. This is not arrivals per day, but is total arrivals during school hours during the whole year. Of these, six occurred during the summer months. There were no departures of these noisier aircraft during school hours. The commenter should not have used B727 and B767 to assess school impacts as they do not affect noise during school hours. The MD80 does, however, operate during school hours. On an average day during the 2004–2005 budget year, there were 3 MD80 arrivals from the south and 3 MD80 departures to the north during the hours of 8 a.m. and 4 p.m. No school has more than three overflights of this aircraft during school hours. Three flights of the MD80 are not sufficient to be defined as a significant noise impact on schools. The commenter assertion that 22 schools are impacted is not correct when one examines the correct set of single-event contours.

Response 18

The comment asserts that “Because the Optimized Flights Scenario would result in single-event noise levels increasing 20 to 30 dB above background conditions without the project, leading to interruptions in educational instruction, daytime sleep, and conversations, among other disruptions, and because this would occur up to 36 more times every day with the project, it needs to be concluded that aircraft noise from the additional flights would be an unavoidable significant impact.” This assertion is based on a misunderstanding of the Draft EIR and the Long Beach Noise Ordinance. First, the additional flights are permitted under the existing noise ordinance and estimated to be 11 additional air carrier flights and 25 commuter flights (which totals 36, as noted in the comment). The 11 additional air carrier flights can only be realized by replacing noisier jets so the single-event intrusion on the schools will not increase. The 25 commuter flights are of the quietest regional jet aircraft. The noise footprints of these commuter aircraft are described in Response 5. Again, the commenter confuses the Terminal Improvement Project with the Optimized Flights Scenario. The Optimized Flights Scenario can occur without the project if airlines and cargo operators switch to a quieter fleet of aircraft. The commenter goes on to criticize CNEL, “The cumulative 24-hour CNEL approach is not a comprehensive assessment for the school population…,” but does not state or recommend another method of assessing school impacts which a state or federal Agency or the Long Beach Unified School District is using to define noise impacts. No schools are close enough to the construction site to be exposed to construction-related noise. Again, in an abundance of caution, the Draft EIR has recommended sound insulation for schools with noise exposure greater than 60 CNEL rather than the usual 65 CNEL standard that is generally applied.

Response 19

This comment is addressed in Responses 17 and 18. The two schools identified in the Draft EIR for mitigation are the only two schools that have a potential impact from an increase in flights should an Optimized Flights Scenario be achieved by the airlines.

Response 20

This comment in is addressed in Responses 17 and 18. The EIR has addressed all feasible mitigation measures to reduce noise impacts to school facilities. The mitigation measure proposes sound attenuation for schools within the 60 CNEL contour, even though there is no significant project related impact which requires mitigation. The proposed land use compatibility program would be adopted by the City within 24 months after project approval. Whether or not avigation easement would be a required condition of any such program and, if so, the terms of the easement would be determined at the time the Council approves the program.

Response 21

Please see Topical Response 3.1.3. The comment suggests that the EIR does not provide a reasonable range of alternatives which would reduce the potential impacts of increased flight activity. As previously stated, the Proposed Project would provide improvements to the existing Airport Terminal Building and related facilities at the Airport in order to accommodate recent increases in flight activity at the Airport consistent with operational limitations of the Airport Noise Compatibility Ordinance and the 1995 Settlement Agreement. It is not intended or sized to accommodate flights and passenger levels beyond the minimum 41 air carrier and 25 commuter flights, as provided for in the Ordinance. Given the fact that both the Ordinance and the Settlement Agreement are legally binding, it is not appropriate for the EIR to address impacts with flight level increases above those that are specified in the Ordinance and Settlement Agreement. The commenter asserts that the "No Project alternative would constrain flights." This is incorrect. As stated numerous times in the Draft EIR and elaborated in Topical Response 3.1.1, the increase in flights can occur with or without the project.

Response 22

The commenter's remark mentions an issue that has been taken out of context. The paragraphs that discuss the Proposed Project's potential effect on fostering growth at the Airport (refer to pages 5-3 and 5-4) clearly state that, under the terms of the Airport Noise Compatibility Ordinance, additional flights could only be added if the noise budget is not exceeded and air carriers decide to optimize flight operations through actions such as using quieter aircraft and reducing the number of late night flights at the Airport. Under the terms of the Ordinance, such action could occur regardless of whether the Proposed Project is approved or built.

Response 23

The issue of impacts on a greater number of schools has been addressed in Responses 8 and 9. In terms of any easement requirements, the City has not determined what rights, if any, the District would be "relinquishing…under an aviation easement." The terms of the easement have not been developed. The land use compatibility program design has not been completed. At the time of design, a determination will be made regarding the type of construction that is needed to ensure an adequate classroom environment. This may include installation of new windows, doors, insulation, vent treatments, or other measures. Post-construction testing programs will be developed as part of the design program. The commenter's recommendation that "construction of a physical education building is one way to mitigate outdoor noise interference" is noted, but it is not deemed necessary nor is it recommended in the Draft EIR. There are no specific schoolyard noise standards. Schoolyards have high ambient noise levels when in use due to the nature of the activity in the schoolyard (i.e., children playing). In fact, the state of California specifically states in the California Airport Noise Regulations that a school is incompatible with an airport if "(b) Public and private schools of standard construction for which an aviation easement for noise has not been acquired by the airport proprietor, or that do not have

adequate acoustic performance to ensure an interior CNEL of 45 dB or less in all classrooms due to aircraft noise;" (Section 5014, Title 21, California Administrative Code). Note that the State only recognized indoor noise levels for purposes of determining a noise impact on schools. With respect to the 45 dB CNEL standard, the Draft EIR recommends that all schools within the 60 CNEL contour be sound insulated. This will ensure that indoor noise levels will be less than 45 dB CNEL.

3.4 RESPONSES TO LOCAL AGENCIES COMMENTS

COMMENTER 9 CITY OF CERRITOS
Dated: November 11, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 10 CITY OF SEAL BEACH
Dated: December 13, 2005

Response 1

The ARB Report[73] referenced by the commenter presents emission estimates of diesel particulate matter (DPM) from various sources at the Ports of Los Angeles and Long Beach in 2002, and the predicted health risk due to exposure to this DPM downwind of the ports. Figure 1 of the ARB Report presents risk contours extending downwind from the ports, indicating the cancer risks in the vicinity of the Airport due to marine port operations are on the order of 100 in one million. This represents the ports' contribution to the existing risk estimate of 643 in one million provided in the Draft EIR (Section 3.2, Table 3.2-8), which is based on the SCAQMD MATES-II study and on recently measured toxic air contaminant data from the North Long Beach monitoring station (SCAQMD Station No. 072). Since the ARB Report is based on 2002 emission estimates along with air pollutant dispersion modeling, it provides an estimate of the marine ports' contribution to the total existing risk in the vicinity of the airport, but does not change the actual measured toxic air pollutant concentrations reported in the Draft EIR. Therefore, it does not provide substantial new information regarding the overall risk in the area of the Airport, nor does it provide data regarding proposed new projects at the ports that would affect the air quality or health risk near the Airport. Therefore, no new analyses of either existing conditions or cumulative impacts are necessary for the Draft EIR.

The LNG Import Project EIS/EIR[74] provides maximum offsite criteria pollutant concentrations as well as health risk impacts at the nearest residential receptor to the Port of Long Beach. The airborne concentrations and health risks are likely to decrease by a factor of 10 from the maximum impact near the Port to the downwind locations near the Airport, based on the ARB Report. Therefore the air quality impacts of the LNG project at the location of the Airport are not substantial, and do not change the findings presented in the Airport Terminal Improvements Draft EIR.

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[73] CARB. 2005 (October). *Draft - Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach.* Sacramento: CARB.

[74] FERC. 2005 (October). *Draft Environmental Impact Statement/Environmental Impact Report. Long Beach LNG Import Project.* Federal Energy Regulatory Commission (FERC/EIS-0168D) and Port of Long Beach (SCH No. 2003091130).

Response 2

The Draft EIR addresses the potential noise impacts of the terminal area improvement project. This analysis is detailed and can be found in Section 3.6 of the Draft EIR. The issue which is raised in the comment concerns the location of arrival flight tracks over the City of Seal Beach. The project will have no effect on arrival flight tracks. The City of Long Beach, and in particular, the Long Beach Airport has no control of aircraft in flight. Flight tracks are the sole responsibility of the Federal Aviation Administration. It is noted that the Long Beach Airport receives noise complaints from residents in Seal Beach regarding the location of and noise associated with these arriving aircraft. City staff follows up on these complaints with the resources available, but the City is not in control of aircraft in flight and cannot direct aircraft in flight.

Response 3

This comment refers to deviations from the approved approach patterns. It is not clear what is meant by the term "deviations from the approved approach patterns." There is a common misconception that aircraft are required to be on the extended runway centerline. Aircraft are not like trains on a track and are not required to be on the extended runway centerline for an approach to the Long Beach Airport. Aircraft may turn onto and intercept the extended runway centerline from the north or south as directed by Air Traffic Controllers or as deemed appropriate by the pilot when performing a visual approach. This leads to wide areas of flight track dispersion, which increases with increasing distance from the airport.

Chapter 16.43 of the *Long Beach Municipal Code* establishes SENEL limits for single events as well as a noise budget that is based on CNEL exposure. This is described on page 3.6-9 of the Draft EIR. The City has installed and operates a sophisticated noise monitoring system to enforce the terms of the ordinance. The monitoring sites are shown in Exhibit 3.6-7 of the Draft EIR. These sites are used to measure noise levels and determine compliance with the ordinance and such measurements are used independent of whether the aircraft is on the extended runway centerline or north or south of that line. The CNEL-based noise budget, per the terms of the ordinance, is enforced based on measurements made only at Sites 9 and 10.

Response 4

The City of Long Beach entered into settlement agreements and adopted Chapter 16.43 of the *Long Beach Municipal Code* prior to the year 1990. In 1990, Congress passed the Airport Noise and Capacity Act (ANCA). ANCA included severe restrictions on an airport's ability to adopt airport access restrictions based on noise. ANCA in effect prohibited airports from adopting the kind of rules that Long Beach has implemented in Chapter 16.43. Fortunately, ANCA allowed for a 'grandfather provision' that permits the Long Beach restrictions to remain in place. Chapter 16.43 includes provisions only for noise limits at the existing noise monitor sites. Even if Long Beach installed additional sites, these sites could not be used for enforcement of Chapter 16.43 because new sites would not be grandfathered under ANCA and as such would constitute a new restriction.

Response 5

Arrival tracks and gate penetration plots are provided as Exhibit 4 below. These plots represent a two-week period in October 2005 for all commercial aircraft arrivals over the City of Seal Beach. These plots show that of the 508 flight tracks, all but three were on or near the runway extended centerline by the time the aircraft crossed the San Gabriel River (just west of Leisure World Seal Beach). This is for this particular two-week sample. At other times there may be more or less dispersion than occurred for this period. The gate penetration plot shown in

Exhibit 5 shows that altitudes ranged from a low of 1,300 feet to a high of 2,600 feet. At the gate location (shown as a line just above the words 'Seal Beach'), all but about five aircraft were within one nautical mile of the runway-extended centerline (the runway extended centerline is located about a quarter nautical mile off the gate center point).

EXHIBIT 4
ARRIVAL TRACKS AND GATE PENETRATION PLOTS

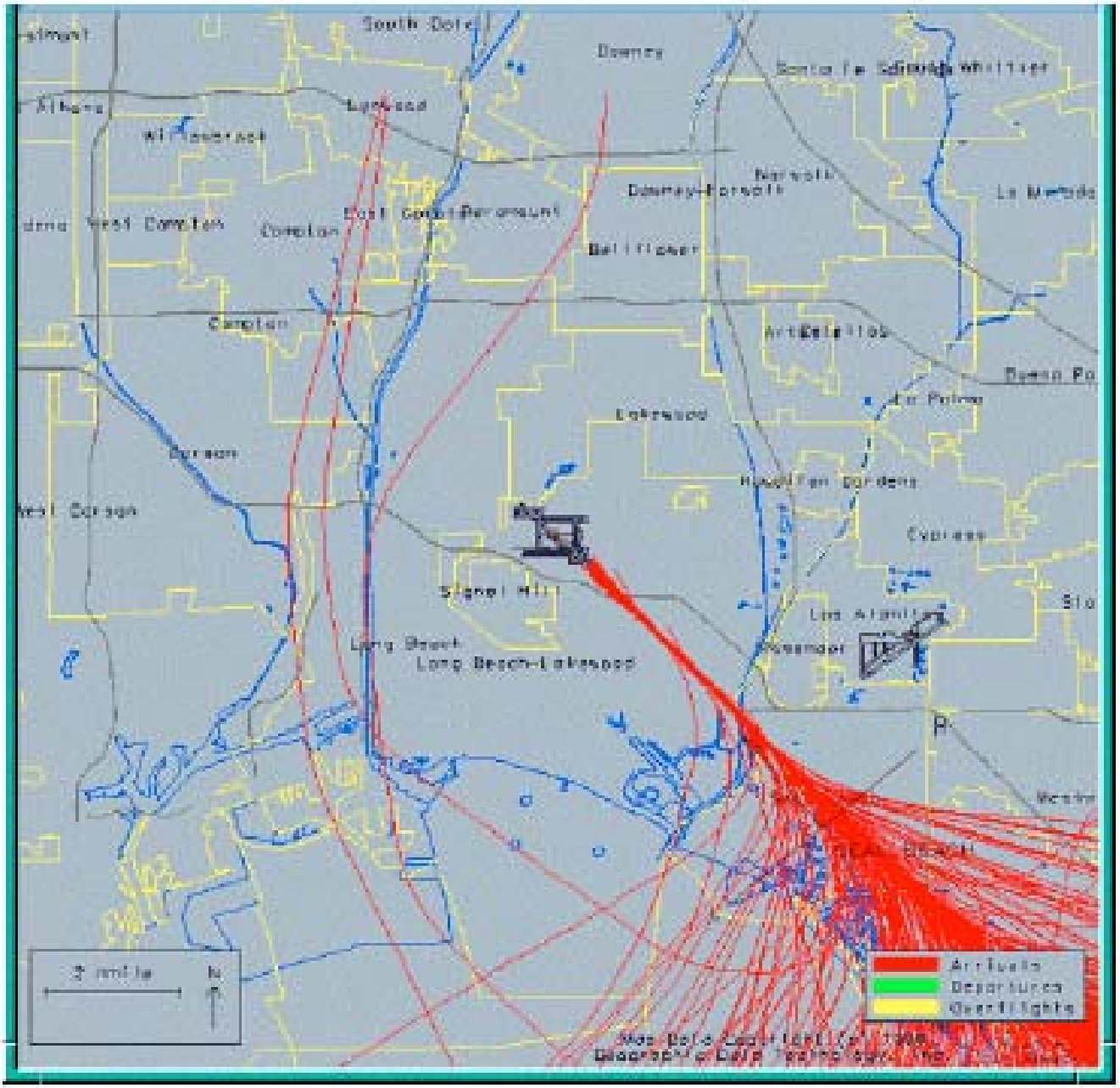
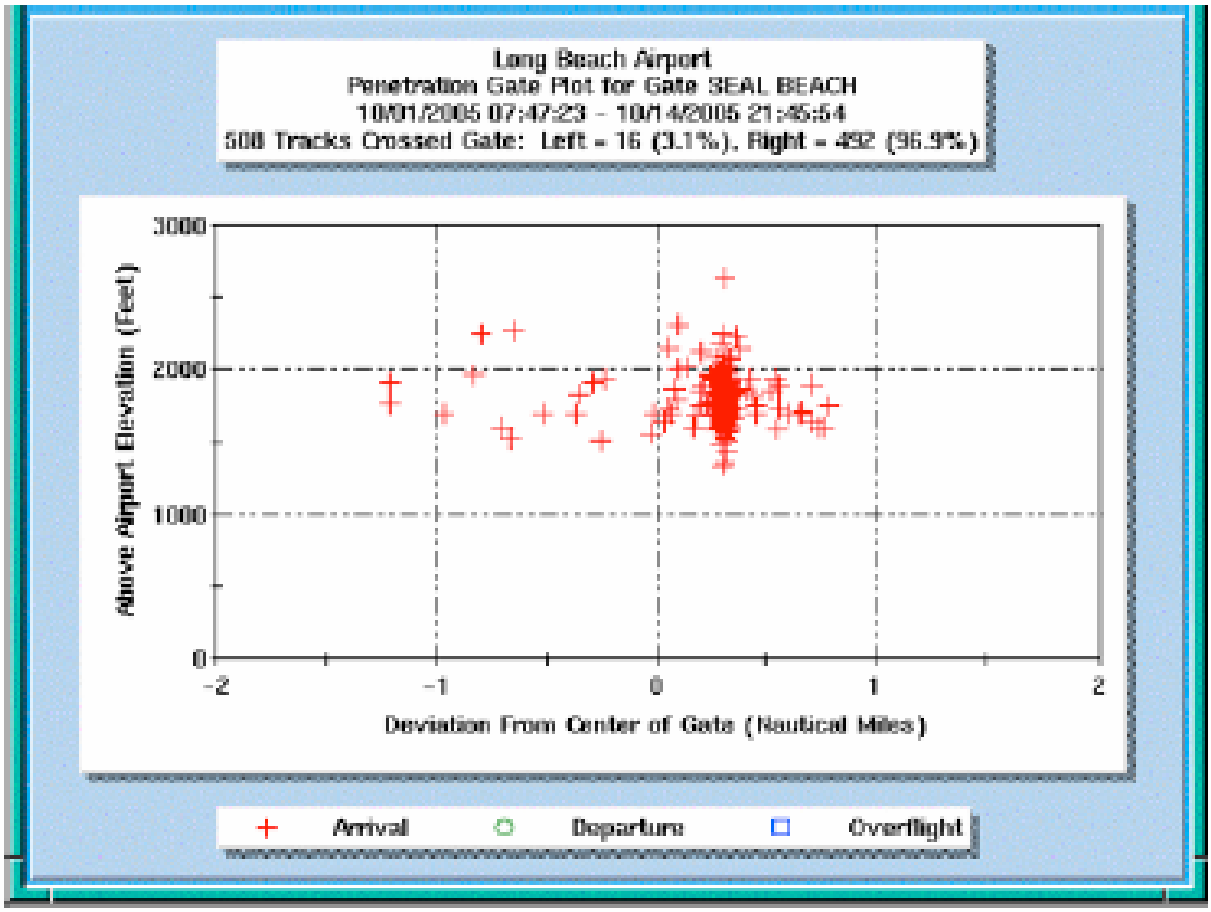


EXHIBIT 5
PENETRATION GATE PLOT FOR GATE SEAL BEACH



COMMENTER 11 CITY OF LONG BEACH, ECONOMIC DEVELOPMENT COMMISSION
Dated: December 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 12 CITY OF HUNTINGTON BEACH
Dated: December 21, 2005

Response 1

It should be clarified that the Airport Noise Compatibility Ordinance specifies a minimum number of flights that must be allowed at the Airport not a maximum number of flights. The Airport Noise Compatibility Ordinance, which has been adopted as Chapter 16.43 of the Municipal Code, establishes a minimum number of flights that the City must allow for both commercial carriers and commuter flights. As discussed on pages 2-2 and 2-3 of the Draft EIR, Chapter 16.43 of the Municipal Code permits air carriers to operate a minimum of 41 airline flights per day while commuter carriers are permitted to operate a minimum of 25 flights per day. The City of Long Beach adopted an Airport Noise Compatibility Ordinance that includes two major components. The first establishes Single Event Noise Exposure Level (SENEL) for aircraft operating into and

out of the Airport. The second establishes a noise budget for the various categories of aircraft at the Airport. The Airport Noise Compatibility Ordinance allows the permitted number of flights per day to be increased in each operator flight restriction category as long as the flights operate below the CNEL budgets.[75] In order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations. This would include using quieter aircraft and reducing the number of late night operations. Under optimal conditions, which have never been achieved at the Airport, the estimated number of increased flights would range between 7 and 11 flights.

As indicated on page 2-6 of the Draft EIR, while the project does not propose any changes to the Airport Noise Compatibility Ordinance or other means of directly increasing flight operations at the Airport, it was determined that the EIR should assess the impacts associated with the full utilization of the 25 commuter flights that are provided for under the existing terms of the Airport Noise Compatibility Ordinance, even though at the time the NOP was issued and the baseline for this EIR was established, there were no commuter operations at the Airport. Currently, four commuter flights are being offered at the Airport – one by US Airways (America West) and three by Delta. It is anticipated that full utilization of the remaining 21 commuter slots will occur within the next few years. Therefore, the analysis of the Proposed Project reflects the 41 commercial flights that are currently operating at the Airport, and the 25 commuter flights because they are allowed under the Airport Noise Compatibility Ordinance and will likely occur within the foreseeable future.

The comment requested an analysis of how many flights may typically operate per day. As indicated above, the Airport Noise Compatibility Ordinance allows for an increase in the number of commercial flights over the minimum 41 flights that are currently operating. Though the Proposed Project is limited to facilities improvements, the Draft EIR evaluated the potential impacts associated with 11 additional commercial flights. This is explained on page 2-17 of the Draft EIR and identified as the Optimized Flights Scenario. To avoid confusion in the Draft EIR, the impact analysis for each topical section was broken out into three categories: Construction Impacts, Proposed Project Impacts, and Additional Effects Related to Optimized Flights. No significant impacts were identified to in the City of Huntington Beach because of the Proposed Project.

Response 2

The noise contours provided in the Draft EIR clearly show that no part of the City of Huntington Beach is within the 65 CNEL contour for either existing conditions or the Optimized Flights Scenario. In terms of noise associated with approaches flown over the City of Huntington Beach, Exhibit 3.6-10a and 3.6-10b show the approach single event noise contours for a variety of aircraft. The loudest approach contour is the B757 aircraft. The map in Exhibit 3.6-10a does not extend south to Huntington Beach, but if it did it would show that the 85 SEL contour for this aircraft closes over the Seal Beach Naval Weapons Center, west and north of the Huntington Beach City boundary. While aircraft flying over Huntington Beach are audible, and some people may find it annoying, these flights do not exceed a threshold that is considered a significant impact according to state and federal noise guidelines.

[75] The Airport Noise Compatibility Ordinance is provided as an attachment in Appendix F and can also be viewed at the Airport web site at www.lgb.org.

3.5 RESPONSES TO INDIVIDUALS AND ORGANIZATIONS COMMENTS

COMMENTER 13 TERRENCE BREEN
Dated: November 8, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 14 JOHN COSTELLO
Dated: November 8, 2005

Response 1

Your comment is noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 15 DARCY VERNIER
Dated: November 8, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 16 MICHAEL PICKERING
Dated: November 9, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 17 DANIEL BARACKMAN
Dated: November 12, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 18 ROBERT C. LAND
Dated: November 13, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 19 STEFAN BOROWICZ
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 20 ANITA CLARKE
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 21 PAUL BERK
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 22 MARY LOU ROMANO
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 23 SUSAN ODELL
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 24 RICHARD DAVIES
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that additional flights are not part of the Proposed Project. As indicated in the project description in the Draft EIR (pages 2-7–2-15), the Proposed Project is limited to facilities improvements. The discussion of operational considerations (page 2-17 of the Draft EIR) was included at the request of the City Council. The opportunity for additional flights is currently provided for in the Airport Noise Compatibility Ordinance. In order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations.

Response 2

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 25 KEVIN C. LEWIS
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 26 GEORGE DODELIN
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 27 SEAN MANNING
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 28 SCOTT WARTENBERG
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. It should be noted that the Proposed Project is not a proposal by JetBlue Airways but is being directed by the City of Long Beach, Public Works Department.

COMMENTER 29 RACHAEL MURRAY
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 30 GRANT JOHNSON
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 31 RICHARD THORPE
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 32 ALMA ORANTES
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 33 LAWRENCE J. EWASKA
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 34 KIMBERLY HAZUDA
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 35 SUE TUCKER
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 36 LARRY RHODES
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 37 KEVIN SCOTT
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 38 GEORGE T. MORALES
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 39 CORY COLPEAN
Dated: November 14, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

Response 2

Two components of the Proposed Project that would help to alleviate traffic in front of the Airport are the new parking structure and the extension of Donald Douglas Drive to Lakewood Boulevard. Currently, during peak travel periods the existing parking structure at the Airport is full. This results in vehicles driving around looking for parking and needing to go out to the remote lot (Lot D). The additional parking would eliminate the vehicles driving around looking for parking. Additionally, as discussed in the Draft EIR (Section 3.8, Transportation and Circulation), by providing additional parking on site the Proposed Project would reduce the overall number of trips at the Airport because it would eliminate some of the extra trips associated with “meeters and greeters” (i.e., trips associated with having someone drop a passenger off at the Airport and having to come back and pick them up when they return). No impacts associated with internal circulation were identified with the Proposed Project. Additionally, the new exit of the Donald Douglas Drive extension at Lakewood Boulevard would allow vehicles exiting the Airport to go south on Lakewood Boulevard without having to go through the existing intersection of the Airport entrance at Donald Douglas Drive at Lakewood Boulevard. This would decrease the number of vehicles that currently use the existing intersection.

COMMENTER 40 CLYDE M. SPENCER
Dated: November 14, 2005

Response 1

<u>Extension of Airport’s Diagonal Runway to 10,000 feet</u>

In 1955, a bond initiative was undertaken in order to extend the main runway at Long Beach Airport. The initiative, labeled Bond Proposition No. 1 – Airport Improvements, qualified and was

voted on in a special election held on February 9, 1956. The bond measure passed by nearly a 3-to-1 margin.

A document dated in 1955 and prepared by the Long Beach Office of City Manager stated the following:

> The objective of this project is to provide the Long Beach Municipal Airport with runway facilities suitable for the most modern aircraft. The present diagonal runway is 6,900 feet in length. It has been recognized for some time that, because of the landing and takeoff requirements of modern aircraft, this runway is in need of extension to a length of 10,000 feet. This extension is required to provide the Douglas Aircraft Corporation with adequate runway facilities to accommodate jet transport aircraft which they plan to produce, as well as to provide capacity for commercial transport and cargo aircraft of this type as they are put into general service by the airlines.

The final paragraph of the three page correspondence states:

> The primary purpose in lengthening an airport runway is for safety—safety for aircraft operators, passengers, and adjacent residents. While there are many other benefits to be gained by extending the diagonal runway at the Municipal Airport, the foremost objective is to enhance the safety of its operation.

The research shows that there was much discussion about the proposed runway extension and that many residents and community groups opposed the idea. On December 5, 1955, the Parents and Property Owners Protective Association submitted letters to the Long Beach City Council, Long Beach Board of Education, and to All Parents opposing the project. The organization stated opposition to the project was:

> …would encroach on buffer areas established years ago for the required protection of residents living at each end of the proposed extension of the subject runway and particularly the extension across Lakewood Blvd.
>
> With the limited number of 10,000 foot runways in our Nation, it is expected that many accommodation landings and take-offs of multi-jet type aircraft will be made, plus the 'testing' of multi-jet commercial transports and 'testing' of military jets, as proposed to be built in this area. This would seriously jeopardize the lives of some seventy thousand people and over four hundred million dollars in homes and other properties, which would be located in the high hazard areas.

It should be noted that in each of the three letters, there is a clear reference to the future use of the extended runway by multi-jet aircraft and multi-jet commercial transports.

Other notable decisions and/or actions taken related to the use of Long Beach Airport for current and future commercial passenger service include the following:

- Long Beach City Council Resolution C-6422, Feb. 9, 1938—"Long Beach Airport will, for all times, be operated and maintained for public benefit and without discrimination against or in favor of any person or corporation, including any scheduled airline operator in consideration of federal funds available through Works Progress Administration for improvements at the airport."

- Feb. 28, 1938—Four big airlines (United, TWA, American, Western) announce plans to use Long Beach Municipal Airport.

- Dec. 2, 1940—New Western Air Express & United Airlines service begins from Long Beach.

- Jan. 14, 1942—Eastern Air Lines returns to Long Beach; service stopped by war resumes.

- Jan. 5, 1950—Southwest Airways establishes terminal at Long Beach airport for the airline's Phoenix route.

- Oct. 31, 1952—Flying Tiger Airlines begins Long Beach operations.

The Defeat of Previous Expansion Proposals

Since the City formally assumed responsibility for the Long Beach Municipal Airport in 1923, numerous development plans have been prepared. The City Engineer prepared the first known overall plan for the airport in 1933. The plan was refined in 1938–39, adopted by the City Council on September 24, 1940, and served to guide the airport development through the World War II period.

In 1969, Quinton Engineers, LTD prepared an Airport master plan study at the request of City Council. As a result of the Quinton Plan, the City called a special municipal election on November 3, 1970, to submit a vote to the electorate regarding "Proposition T, An Ordinance Extending Runway 7R/25L of the Long Beach Airport For Use By Private and Commercial Air Traffic". The proposal was to extend the runway to a total of 7,468 feet. The measure was defeated by a 59 percent vote (68,401 vs. 47,884) and no subsequent action was taken on the Quinton Master Plan.

In March 1979, the Ralph M. Parsons Company completed a master planning effort commissioned by the City Council. This plan foresaw a significant increase in scheduled carrier flight activity, above and beyond the City's 48 weekly flight limit and the City Council's noise control policy, which existed at the time. The plan, which generated significant controversy from both residential and aviation interests, was never adopted by the City Council nor were its recommendations implemented.

Citywide City Council Elections

This issue is unrelated to the proposed Airport Terminal Area Improvement Project.

Response 2

The commenter has expressed concern regarding Long Beach Airport's ability to respond to emergency landings such as the one recently made by a JetBlue aircraft and Los Angeles International Airport. Long Beach Airport's main diagonal runway, 12/30, is fully capable of handling emergency situations of that nature. In fact, on the date of the incident, sufficient ground, fire, and rescue personnel were in place had the decision been made to land at Long Beach Airport. One reason that the main runway was extended to 10,000 feet back in 1955 was to better equip Long Beach Airport to handle these types of emergency situations. JetBlue's emergency landing at LAX was safe and uneventful, with the aircraft coming to a stop well within the length of runway available.

Response 3

The commenter has inquired about the recent remodel of Skylinks golf course. Skylinks re-opened in October 2004 after being shut down one year for refurbishment. The $5 million renovation was intended to make Skylinks one of the City's premier golf attractions. The course still resides within the original footprint, Spring Street to the flood control area and Clark to Lakewood. Prior to the renovation, the course was described as being flat and wide open. The new course is now considered much more challenging (difficult) with longer fairways, larger greens, and more sand and water traps. The palm trees were either removed or relocated throughout the facility in order to complete the course upgrade. There are no plans to extend Airport runways 25R or 25L, nor are there any plans to extend the Airport facility beyond its current street boundaries.

COMMENTER 41 JEAN WADSWORTH
Dated: November 15, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 42 GARY NARAMORE
Dated: November 15, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 43 JUSTIN A. DUNNE
Dated: November 15, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 44 SHANNON
Dated: November 15, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 45 DONNA R. MARK
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 46 DARIAN R. RAUSCH
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 47 CARL R. BERGER
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 48 DARIAN R. RAUSCH
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 49 DARIAN R. RAUSCH
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 50 JODY L. FORTER
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 51 JOHNNA & STEVE BRYANT
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 52 ROBERT FLIPPEN
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 53 STEVE ROSS
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 54 MBBO105
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 55 PAULA WHITE
Dated: November 16 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 56 MARLENE STEWART
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 57 RANDY BROWN
Dated: November 16, 2005

Response 1

The No Build Alternative does not provide for any physical improvements. This alternative (Alternative C) assumed the facilities would remain in their current conditions. However, Parking Lot D was assumed not to be available because it is on a month-to-month lease and Boeing has indicated that it would not be available for long-term use.

COMMENTER 58 GARY W. TIMM
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 59 LEANNE RAFTER
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 60 BRUCE GREENBERG
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 61 BRIAN WAITZEL
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 62 ROGER CLARKE
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 63 ED ZWIEBACK
Dated: November 16, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 64 MARGARET BROOKS
Dated: November 17, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 65 KEVIN D. KUETTEL
Dated: November 17, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 66 DAVE JOHNSON
Dated: November 17, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 67 KYM ELDER
Dated: November 17, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 68 RONALD E. RAFTER
Dated: November 18, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that the terminal would not be a JetBlue terminal building, but would be used by all commercial and commuter carriers and passengers.

COMMENTER 69 KEVIN MULLEN
Dated: November 18, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 70 MIKE DONELON
Dated: November 19, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 71 STAN & EVELYN SETTLES
Dated: November 19, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 72 MICHAEL C. BAKER
Dated: November 19, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 73 JON WELTE
Dated: November 19, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 74 RICHARD EARHART
Dated: November 19, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

Response 2

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. However, progressively closing the terminal and suspending air service would not meet any of the project objectives and would not be considered a reasonable alternative.

COMMENTER 75 GABRIEL RUBIN
Dated: November 19, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 76 DIRK MARKS
Dated: November 20, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 77 MATT RAFTER
Dated: November 20, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 78 VICKI ARREGUIN, GUESTHOUSE HOTEL LONG BEACH
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 79 MARK BIXBY, BIXBY LAND COMPANY
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 80 WILLA HEART, LONG BEACH PRIDE
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 81 MATT KINLEY
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 82 BOB LUSKIN
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 83 PATRICK G. O'HEALY, O'HEALY COMMERCIAL REAL ESTATE
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 84 VIVIAN REEVES, ZPIZZA
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 85 G. LARRY RICE, SEASIDE PRINTING COMPANY, INC.
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 86 SUSAN RUSNAK, MARRON & ASSOCIATES
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 87 KIM HANK LIM
Dated: November 22, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 88 MICHAEL FORRY, CONSTRUCTION CONSULTANT SERVICES
Dated: November 21, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 89 GEOF GARTH
Dated: November 23, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 90 SHARON MENDOZA
Dated: November 23, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 91 DOMINGO LEON, SOCIETY OF HISPANIC PROFESSIONAL ENGINEERS
Dated: November 25, 2005

Response 1

As part of the scoping process for the EIR, an Initial Study was prepared to identify the issues that required further evaluation in the EIR. In both the 2003 and the 2005 Initial Studies, the City of Long Beach determined that geotechnical issues did not require further consideration in the EIR. Based on information in the Long Beach Seismic Safety Element of the General Plan, the site would have a low potential for liquefaction. A recent geotechnical survey conducted by the City of Long Beach for the existing parking structure at the Airport concluded that the potential for the site to be impacted by earthquakes, seismic ground shaking, liquefaction, landslides, substantial soil erosion, or unstable or expansive soil is negligible. The geographic characteristics of the study area are similar to those of the parking garage. This is not to indicate that geotechnical considerations would not be considered during the design of the facilities, but that adequate protection would be provided through the implementation of the adopted seismic safety standards and the Uniform Building Code requirements. In addition to being included in the Initial Study, this is explained on page 1-6 of the EIR.

Response 2

The size of the consultant team was based on the need for experts in each of the technical fields being evaluated.

COMMENTER 92 RONALD D. SALK, AAC STUDY COMMITTEE
Dated: November 25, 2005

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

Response 2

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. Though not specifically requested by the commenter, the recommendations of the AAC can be incorporated into the Final EIR. Section 2.4.2 of the Draft EIR, which discusses project history and the AAC involvement, is hereby modified to read (new text is shown with italics):

> Though not part of the formal EIR scoping process, the Airport Advisory Commission (AAC) held 15 meetings, open to the public, from November 2003 through July 2004 to consider recommendations on possible Airport improvements and to advise on certain issues regarding scoping of the EIR. The AAC made recommendations regarding the project and technical studies to be prepared for the EIR. *The AAC recommended that the Proposed Project provide for 133,000 square feet of terminal area improvements.* The City Council considered these recommendations on February 1 and February 8, 2005. As a result of this process, changes were made to the proposed improvements that would constitute the Proposed Project and be addressed in the EIR.

COMMENTER 93 CHRISTINE THILL
Dated: November 28, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 94 SUZANNE SHIPP
Dated: November 28, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 95 JIM BIRGE
Dated: November 28, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 96 CONRAD WINN
Dated: November 29, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 97 DEMETRA MONIOS
Dated: November 29, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 98 MARK FLANDERS
Dated: November 29, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 99 ROY HANSON
Dated: November 30, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. It should be clarified that the land use compatibility program would only apply to homes within the 65 CNEL contour and schools within the 60 CNEL contour.

COMMENTER 100 DON J. SEVER
Dated: November 30, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 101 STEVEN B. CHESSER, THE BOEING COMPANY
Dated: November 30, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 102 ALLAN & LOUISE COOPER
Dated: December 1, 2005

Response 1

Your comment is noted. As discussed in Section 3.3 of the Draft EIR the Long Beach Terminal Building has been designated as a City of Long Beach Cultural Heritage Landmark. Therefore, it is considered a historical resource under CEQA guidelines and any substantial adverse change to the significance of the Terminal Building is considered an adverse impact under CEQA. The Proposed Project will retain character-defining features that emphasize the significance of the Terminal Building, as well as maintain its original function. The City has adopted guidelines to minimize impacts to the historic integrity that may occur as a result of modifications to the Terminal Building. The Proposed Project, with implementation of mitigation measures, is able to reduce impacts to less than significant while still allowing the terminal area improvements.

During the scoping process, many members of the public expressed a concern that the improvements to the Airport would change the open-air access that is currently available or that a second story on the terminal building, which is required for Jetways, would be used to expand the Airport further in the future. Therefore, it was decided to propose a design that would not accommodate a second story and could not provide for Jetways. This allows the character of the Airport to be maintained. Provisions have always been made to ensure access to aircraft in compliance with the Americans with Disabilities Act (ADA). ADA compliance related to aircraft access from the tarmac is the responsibility of each airline. However, the City does provide ADA lifts for use by the airlines. ADA lifts and boarding ramps have eliminated the need for airline employees lifting and carrying disabled passengers up the boarding stairs.

It should be noted that improvements required for the airport to accommodate very large aircraft such as the A-380 would go well beyond improvements in the terminal area. The airfield facilities as currently designed cannot accommodate regularly scheduled flights with aircraft of this size. There are physical limitations that would prevent regularly scheduled flights of such large aircraft at the Airport due to weight and size. The runways and taxiways are laid out for a maximum of Group 4 aircraft that is aircraft with wingspans up to, but not including, 171 feet. This means that the taxiways and runway widths; shoulders and pavement fillets; airfield lighting; and signage are designed for Group 4 aircraft or smaller. Additionally, taxiway turning radii are based on Group 4 aircraft or smaller. The size of aircraft to which the commenter is referring would be in a Group 5 or Group 6. Extensive and costly modifications to provide the required structural strength, pavement widths, and turning radii would be required airport-wide. This is especially true where the tunnels extend under Runway 30 where strengthening would be necessary to accommodate the weight requirements of the larger aircraft. Additionally, JetBlue Airways, the primary commercial carrier at Long Beach Airport, does not currently own any 500-passenger jets, nor do they have orders for any such aircraft. The JetBlue Airways' fleet is comprised of the A320 (156 passenger seats) and the E190 (98 passenger seats) aircraft.

Response 2

Your comment is noted. As discussed in Section 3.3 of the Draft EIR, the Long Beach Terminal Building was designated as a local Heritage Landmark. The City has adopted guidelines to minimize impacts to the historic integrity that may occur as a result of modifications to the Terminal Building. The Proposed Project, with implementation of mitigation measures, is able to reduce impacts to less than significant while still allowing the terminal area improvements.

Response 3

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 4

The Draft EIR recommends sound insulation for Minnie Gant Elementary School if and when, the school is within the 60 to 65 CNEL contour. The standards established in the Airport Noise Compatibility Ordinance and applicable standards of State and Federal Agencies is the 65 CNEL contour. However, the mitigation measure recommended inclusion of the Minnie Gant Elementary School in the land use compatibility program in an abundance of caution and because Congress has authorized the use of federal funds for attenuating existing schools to a level of 60 CNEL.

COMMENTER 103 HENRIK VON BUTTLAR
Dated: December 1, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 104 MICHAEL COMUNIELLO, ALTEON TRAINING
Dated: December 1, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 105 DARLENE KRIBELL
Dated: December 1, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. Please refer to Section 3.2 of the Draft EIR for a discussion of air quality and human health risk assessment issues. Additionally, it should be noted that the Proposed Project would reduce the air emissions compared to existing levels and the No Project Alternative. The mitigation measures recommend incorporation of infrastructure to support operation of electric ground support equipment (GSE) that would reduce the emissions associated with operations. This would be a benefit of the Proposed Project. The Proposed Project recommends facility improvements and not an increase in flight activity. However, the EIR does address potential impacts associated with additional flights pursuant to the existing Airport Noise Compatibility Ordinance. Please see Topical Response 3.1.1 pertaining to the relationship of the Proposed Project and increased flights.

With regard to “black soot”, it should be noted that a deposition study conducted at Chicago O’Hare International Airport found that:

> …deposited particles at all of the sites monitored near O’Hare bore little chemical resemblance to either unburned jet fuel or soot from jet exhaust. Instead, the

> collected material was chemically similar to general urban pollution, particles from burning heavy fuels and motor vehicle exhaust. These findings indicate that soot and oily deposits in communities near O'Hare are primarily the result of non-Airport emissions.[76]

Similar results would be expected in the vicinity of Long Beach Airport.

COMMENTER 106 RICHARD N. BROWN
Dated: December 4, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 107 DARIAN RAUSCH, NEXICON, INC.
Dated: December 4, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 108 RAY SERVIN
Dated: December 5, 2005

Response 1

The Long Beach Boulevard and 36th Street intersection was not used as a basis for the noise analysis. The noise monitoring sites used in the noise analysis are shown in Exhibit 3.6-7 of the Draft EIR. The noise monitor sites are located closer to the airport environs than is Long Beach Boulevard and 36th Street intersection.

Refer to Topical Response 3.1.5 regarding the location of the air quality monitoring station.

Response 2

All public and private schools located in the City of Long Beach were examined for their proximity to the airport and the noise contours. Only two LBUSD sites would be within the 60 to 65 CNEL contour under the Optimized Flights Scenario and, therefore, exposed to noise of sufficient level to be identified for sound insulation.

Response 3

The Long Beach Unified School District received a copy of the Notice of Preparation (NOP) for the Draft EIR and a copy of the Draft EIR, to which they provided comments (see Commenter #8). In addition, the school district was contacted to obtain addresses of all schools in the district.

[76] Chng, KM. 1999 (December). *Findings Regarding Source Contributions to Soot Deposition – O'Hare International Airport and Surrounding Communities.* Burlington, MA: KM Chng Environmental Inc.. p.ii.

Response 4

No, the School Principals were not contacted. However, the school district was contacted and provided comments (Refer to response to Commenter #8). The noise analysis was based on the noise exposure for each school relative to noise and land use planning guidelines.

Response 5

Both the South Coast Air Quality Management District (SCAQMD) and the CARB were consulted prior to and during preparation of the Draft EIR. In fact, they were key participants in the development of the Air Quality and Health Risk Assessment protocol for the Proposed Project (refer to Attachment A of the EIR's Appendix C). It should also be noted that both of these agencies received copies of and SCAQMD provided comments on the NOP and Draft EIR.

The Draft EIR includes a Health Risk Assessment which specifically focuses on potential project-related impacts to young children and the elderly (refer to Section 3.2 and Appendix C).

Response 6

Yes, the Draft EIR considered the noise associated with 11 additional air carrier flights and 25 commuter flights. The noise contours for this Optimized Flights Scenario are presented in Exhibit 3.6-14 of the EIR.

Response 7

Yes, the noise contours for the year 2004 included the military flights logged at the airport and the Optimized Flights Scenario assumed this same level of military operations. Table 3-1 of the EIR's Appendix F lists the military flights used in the study. On the average day, there are 4.4 military and government operations.

COMMENTER 109 DAVID PEARCE
Dated: December 5, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 110 JIM MEDINA
Dated: December 5, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 2

Your comments are noted. The City of Long Beach did prepare an Environmental Impact Report (EIR) for the Douglas Park project (on Lakewood Boulevard and Carson Street). The EIR was circulated for a 60-day public review period starting on February 11, 2004. The document was posted on the city's web site to facilitate public review. The City Council certified the EIR as adequately addressing the environmental impacts on December 14, 2004.

COMMENTER 111 MICHAEL J. BAKER
Dated: December 5, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. Should at some point in the future, as your letter indicates, the airlines pursue adding flights in excess of what is allowed under the Airport Noise Compatibility Ordinance, separate environmental documentation pursuant to the California Environmental Quality Act would be required. As part of that document, the impacts associated with the additional flights would need to be examined. This EIR does not address impacts associated with an Ordinance amendment, and therefore would not be considered adequate for such an action. For this EIR to consider conditions without the Airport Noise Compatibility Ordinance would be speculative. Addressing modifications to the Ordinance would not be relevant to the project at hand, nor would it serve the interest of the community that wants the Ordinance maintained.

Response 2

As indicated in the project description in the Draft EIR (pages 2-7–2-15) the Proposed Project is limited to facilities improvements and would not result in any additional flights. However, the discussion of impacts associated with increased operations was included at the request of the City Council. The potential air quality impacts associated with the additional flights (identified as the Optimized Flights Scenario in the Draft EIR) was addressed in Section 3.2 of the Draft EIR. The EIR concluded that the operations under the Optimized Flights Scenario would exceed the South Coast Air Quality Management District's (SCAQMD) PM_{10} concentration threshold and exceed SCAQMD's thresholds of significance for CO, VOC, and NO_X. The mitigation program presented in Section 3.2.3 of the Draft EIR would reduce CO and VOC impacts to a level considered less than significant; however, PM_{10} and NO_X emissions would remain significant. However, since the Optimized Flights Scenario analyzes air quality impacts associated with airport operations, associated ground support equipment (GSE), and vehicular traffic activities, these impacts would be expected to occur whether or not the Proposed Project is implemented.

Response 3

The EIR found that the impacts associated with the Proposed Project would be less than without any improvements (Alternative C, the No Project Alternative) due to the improvements that would be implemented as part of the Proposed Project. Specifically related to air quality, mitigation measures 3.2-11–3.2-15 are air quality measures that would reduce air quality impacts associated with current operations. These measures include incorporating infrastructure for electric charging stations to support electric GSE; the provisions for power units and preconditioned air into the air carrier ramp design; use of ultra-low sulfur diesel; and requiring compliance with the South Coast GSE Memorandum of Understanding (MOU). All these measures, which would be incorporated into the Proposed Project, would reduce air emissions compared to existing conditions.

Response 4

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that the public outreach program, as well as the 84-day public review period for the EIR, far exceeds the requirements of CEQA and what is generally provided for comparable projects.

COMMENTER 112 PAUL PERENCEVIC
Dated: December 5, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. It should be noted that the Proposed Project does not provide for any additional flights at the Airport.

COMMENTER 113 CAROLINE WAGNER
Dated: December 5, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 114 ADELE KATZ
Dated: December 6, 2005

Response 1

AirportEIR@longbeach.gov is the email address that was provided for sending comments on the Draft EIR. There would be no website to access with this address. The document itself is located and is available for review on the City's website (www.longbeach.gov), the Airport's website (www.lgb.org), at each of the City's libraries, and at the City of Long Beach Planning and Building Department.

Response 2

Your comment is noted. The largest increase would have resulted in the square footage of the terminal area approximately doubling in size from about 56,320 square feet to 102,850 square feet.

Response 3

Your comment is noted. During the scoping process, many members of the public expressed a concern that the improvements to the Airport would change the open-air access that is currently available or that a second story on the terminal building, which is required for Jetways, would be used to expand the Airport further in the future. Therefore, it was decided to propose a design that would not accommodate a second story and could not provide for Jetways. This allows the character of the Airport to be maintained. Provisions have always been made to ensure access to aircraft in compliance with the Americans with Disabilities Act (ADA). ADA compliance related to aircraft access from the tarmac is the responsibility of each airline. However, the City currently provides ADA lifts for use by the airlines and has recently purchased ADA ramps. JetBlue is currently using ADA ramps at the Airport. These ADA lifts and boarding ramps have eliminated the need for airline employees to lift and carry disabled passengers up the boarding stairs.

COMMENTER 115 DENISE RAINES
Dated: December 7, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that the Proposed Project would not result in an increased number of flights. As indicated in the project description in the Draft EIR (pages 2-7–2-15) the Proposed Project is limited to facilities improvements.

COMMENTER 116 DOUG MOIR
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 117 ALAN ARMIJO, TECH INTERNATIONAL
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 118 BILL HARPER, BILL'S FIX IT SERVICE
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 119 ROBERT C. LAND, JETBLUE AIRWAYS
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 120 HAROLD MATSTAD
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 121 LARRY RICE, SEASIDE PRINTING CO., INC.
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 122 ANGEL RIVAS, BANK OF THE WEST
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 123 GAIL B. SCHWANDNER, LONG BEACH CITY COLLEGE
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 124 ROBERT J. STEMLER, KEESAL, YOUNG & LOGAN
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 125 KARL A. STRANDBERG, MODE CONSULTANCY
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 126 KATHLEEN THURMOND, BEST WASHINGTON UNIFORM SUPPLY
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 127 MARK TOLLEY, URBAN PACIFIC BUILDERS
Dated: December 8, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 128 JERRY & JOYCE BORISY
Dated: December 9, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 129 MALCOLM GREEN
Dated: December 9, 2005

Response 1

The Draft EIR and the Power Point presentation correctly identified that the Airport must allow a minimum of 41 daily commercial flights and 25 daily commuter flights. This minimum flight level is provided for in the Airport Noise Compatibility Ordinance, which was enacted as Chapter 16.43 of the City's Municipal Code. The Proposed Project does not propose any changes to the Airport Noise Compatibility Ordinance. At the direction of the City Council, the EIR did address potential impacts associated with an increase in the number of flights. The Airport Noise Compatibility Ordinance allows that the permitted number of flights per day to be increased in each operator flight restriction category as long as the flights operate below the CNEL budgets. Refer to Topical Response 3.1.1 for additional information regarding the Proposed Project and the Optimized Flights Scenario.

Response 2

The noise analysis includes single event (SENEL) and cumulative noise contours(CNEL). These noise contours are based on noise characteristics unique to each aircraft type. The noise model used in the analysis includes noise databases for each aircraft type. This noise database includes noise data subject to the A-weighted decibel, a method of reporting loudness according to how the human ear judges different frequencies of sound.

Response 3

The Proposed Project does not propose any modifications to the Airport Noise Compatibility Ordinance; therefore, there would be no changes to the restrictions on night hour operations.

COMMENTER 130 BLAKE CHRISTIAN, HOLTHOUSE, CARLIN & VAN TRIGT LLP
Dated: December 9, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 131 JEAN KULEMIN, EXECUTIVE REAL ESTATE
Dated: December 9, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 132 ERIC WITTEN, WITTMAR ENGINEERING AND CONSTRUCTION
Dated: December 9, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 133 SANDRA GIBBONS
Dated: December 10, 2005

Response 1

Please see Topical Response 3.1.5 pertaining to the methodology for the preparation of the Air Quality and Health Risk Assessment. This explains the use of the air quality data from the Long Beach Boulevard and 36th Street monitoring station.

Response 2

The Airport Noise Compatibility Ordinance addresses how night hour violations are handled. Refer to Topical Response 3.1.6 for specific details.

Response 3

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. Aircraft turn at specific altitudes. Aircraft that reach that altitude turn sooner than aircraft which climb more slowly. This causes the flight track dispersion that you observe on departure. Neither the City nor the Airport has any control over flight patterns or altitudes; the Federal Aviation Administration has exclusive jurisdiction over aircraft in flight..

Response 4

Two components of the Proposed Project that would help to alleviate traffic in front of the Airport are the new parking structure and the extension of Donald Douglas Drive to Lakewood Boulevard. Currently, during peak travel periods the existing parking structure and surface lots at the Airport are full. This results in vehicles driving around looking for parking and needing to go out to the remote lot (Lot D). The additional parking would eliminate the number of vehicles driving around to look for parking, thereby reducing air quality impacts. Additionally as discussed in the Draft EIR (Section 3.8, Transportation and Circulation), by providing additional parking on site, the Proposed Project would reduce the overall number of trips at the Airport because it would eliminate some of the extra trips associated with “meeters and greeters” (i.e., trips associated with having someone drop a passenger off at the Airport and having to come back and pick them up when they return). No impacts associated with internal circulation were identified with the Proposed Project.

The number of parking spaces required was calculated from a professional parking study entitled "Long Beach Airport Parking Adequacy Analysis", which was conducted for the City in 2001. The study showed a need for 2.75 parking spaces for each 1,000 annual enplanements. If sufficient parking were not provided, there would be an increase in the number of passenger drop-off and pick-up trips because some of the passengers would have no other option but to be dropped off, increasing the overall amount of traffic at the airport.

Response 5

The EIR did evaluate the entire area potentially impacted by the Proposed Project. The analysis actually extended beyond the extent of impacts associated with the proposed facilities improvements. For example, the noise impacts associated with the Proposed Project would be limited to construction noise associated with facility improvements. However, the Draft EIR included discussion of the 60, 65, and 70 CNEL noise contours associated with aircraft operations. This level of thoroughness was done for each topical area. The EIR established thresholds to determine if a project impact would be considered significant (see Topical Response 3.1.2 pertaining to thresholds of significance). Each of these thresholds was fully discussed in the EIR.

Response 6

The fiscal considerations of the project are not a topic pursuant to CEQA. The EIR addresses potential physical impacts.

COMMENTER 134 TOM & KATHLENA GILL
Dated: December 10, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. For a discussion of the potential noise impacts of the proposed project, please see Section 3.2 of the Draft EIR.

Response 2

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. For a discussion of the potential noise impacts of the proposed project, please see Section 3.2 of the Draft EIR.

Response 3

Your comments regarding potential impact on property values stemming from aircraft operations are noted and have been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that economic considerations of the project are not a topic pursuant to CEQA. The EIR addresses potential physical impacts.

Response 4

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 5

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that an extensive effort was made during the scoping process to address the appropriate sizing of the terminal area facilities. As summarized in the Draft EIR (Section 2.4, Project History), the AAC conducted a series of 15 public meetings on the size of the proposed improvements and the scope of the EIR. To support that effort, HNTB prepared a study report that considered a number of factors and made recommendations on the proposed improvements[77] (*Facility Requirements Analysis, Long Beach Municipal Airport*, 2004). Factors considered included the number of flights, the number of passengers served, the type of flights (i.e., short-haul and long-haul trips), and industry standards. Based on this scoping and outreach process, the AAC made a recommendation to the City Council on the size of the improvements, which was approximately 133,000 square feet of terminal area. The City Council decided to reduce the maximum size of the facilities. The largest alternative evaluated in the Draft EIR was the Proposed Project, which would provide 102,850 square feet. These improvements were sized to serve the minimum 41 commercial flights and 25 commuter flights provided for in the Airport Noise Compatibility Ordinance and would not provide excess capacity to serve expanded flight levels.

COMMENTER 135 RANDY LAUB
Dated: December 10, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 136 GEORGEANNE DODIE REDDINGTON, GOLDEN SHORE BAKERIES, INC.
Dated: December 10, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 137 ZIGMUND F. HUSS
Dated: December 13, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 138 JANE BROADWELL
Dated: December 14, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that the Proposed Project would not result in an

[77] HNTB 2004.

increased number of flights. As indicated in the project description in the Draft EIR (pages 2-7–2-15), the Proposed Project is limited to facilities improvements.

COMMENTER 139 MICHAEL MCCARTHY
Dated: December 14, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 140 DENNIE WALLACE
Dated: December 15, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. The Proposed Project would not result in an increased number of flights. As indicated in the project description in the Draft EIR (pages 2-7 2-15), the Proposed Project is limited to facilities improvements.

COMMENTER 141 CAROL SOCCIO, AIRPORT ADVISORY COMMISSIONER
Dated: December 16, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 2

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 3

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. The proposed phasing plan (page 2-17 of the Draft EIR) shows the parking structure as the first structure to be constructed. As discussed in the Draft EIR (page 2-15), Parcel O would be prepared to accommodate temporary vehicular parking that would be displaced while the parking structure is being constructed.

Response 4

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 5

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 142 MICHAEL C. JENSEN, PACIFIC RETAIL PARTNERS
Dated: December 16, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 143 GWEN WHITE
Dated: December 17, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 144 KENNETH R. VELTEN
Dated: December 19, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 145 ED VON LEFFERN
Dated: December 20, 2005

Response 1

The commenter is not correct in the assertion that the "EIR assumed the noise ordinance will limit the number of flights that can fly to 41 commercial and 25 commuter flights per day." The ordinance permits a minimum of 41 commercial flights and 25 commuter flights. If the flights that occur operate below a noise budget then more flights can be added. The Draft EIR carefully projects that under optimum conditions, an Optimized Flights Scenario may occur in which the flights increase to 52 commercial flights and 25 commuter flights. The noise monitors located off the end of Runway 30 are close to the runway end and turning aircraft do not avoid the monitors. Commercial aircraft turns generally occur at or beyond the noise monitor. Refer to Topical Response 3.1.1 regarding the Airport Noise Compatibility Ordinance.

Response 2

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that additional flights are not part of the Proposed Project. As indicated in the project description in the Draft EIR (pages 2-7–2-15) the Proposed Project is limited to facilities improvements. The discussion of operational considerations (page 2-17 of the Draft EIR) was included at the request of the City Council. The opportunity for additional flights is currently provided for in the Airport Noise Compatibility Ordinance. In order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations.

COMMENTER 146 EVAN & LISA OCHSNER
Dated: December 20, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. The statements in the EIR that the Proposed Project would not result in an increase in the number of flights allowed at the Airport are an acknowledgement that the Airport Noise Compatibility Ordinance regulates the number of flights and therefore, indirectly, the associated number of passengers. As discussed in the Draft EIR on pages 2-2 and 2-3, to resolve protracted litigation involving the Airport, the City and the airlines entered into a stipulated settlement agreement in 1995. The settlement agreement provisions were incorporated into the City's Airport Noise Compatibility Ordinance. The principle terms of the settlement included provisions for a minimum of 41 daily airline (commercial) flights and 25 daily commuter flights, all assumed to be Stage 3 aircraft. Additionally, there is the ability to increase the flight activity limits if it can be demonstrated that flights can be added without airlines or commuters exceeding their allocated portion of the CNEL noise budget based on the 1989-1990 baseline year. As such, the ability to increase the number of flights is not related to the terminal facilities that have been provided.

The comment cites statistics in the EIR regarding the growth in the number of passengers and the associated size of the facilities. Rather than supporting the finding that the size of the facilities resulted in the growth, these statistics show that there are other outside forces that affect the passenger levels at the Airport. The number of annual passengers increased from 25,000 in 1941 to 1.1 million in 1984 without the provision of additional facilities. The 1984, improvements were made in response to the increase in the number of passengers: they did not create it. Similarly, the introduction of the temporary holdrooms in 2002 and 2003 was responding to the growth in passenger levels, which reached 3.0 million passengers in 2003. If the growth in passenger levels was strictly tied to the terminal facilities, the passenger levels would not have grown substantially until after the facilities were implemented. More indicative of the passenger levels are population figures for the region, market forces, and regulatory restrictions that are in play at the Airport.

Finally, the regulatory restrictions that apply to the Airport must be considered. The Airport Noise Compatibility Ordinance provides this regulatory framework. Thus far, the increase in the number of flights has been within the limits of the Airport Noise Compatibility Ordinance. To date, the Airport has never fully implemented the minimum number of flights (both commercial and commuter) allowed under the Airport Noise Compatibility Ordinance. The Proposed Project would be designed to serve these minimum flight and passenger levels. As discussed above, the Airport's ability to exceed the minimum flight levels can only occur when certain criteria are met. In order for the number of flights to increase and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations. This has never been achieved at the Airport. Additionally, there is no reason to believe that the Airport Noise Compatibility Ordinance will be modified. The Ordinance has been adopted and is part of the City's Municipal Code. As discussed on page 2-3 of the Draft EIR, the Airport Noise and Capacity Act (ANCA) limits an Airport operator's right to control Stage 3 aircraft. However, included within the ANCA legislation is a "grandfather" provision that permits Long Beach Airport to continue to enforce the flight and noise restrictions that are contained in the Airport Noise Compatibility Ordinance. In May 2003, the Federal Aviation Administration (FAA) reaffirmed the "grandfather" status of the Ordinance under ANCA. This reaffirmation further supports the validity of the Ordinance. The FAA's recognition of the restrictions on flights at the Airport will

continue to restrict the growth at the Airport. Additionally, this flight level has also been incorporated into the regional planning documents.

A concern expressed is that the improvements would give the Airport an increased ability to modify the Airport Noise Compatibility Ordinance. Any modifications to the Airport Noise Compatibility Ordinance would require additional environmental documentation pursuant to the California Environmental Quality Act (CEQA) to address the impacts associated with the proposed modifications. At that time, the growth-inducing impacts associated with the proposed modifications would be considered. The Environmental Impact Report prepared for the amendment to the Airport Noise Compatibility Ordinance would need to be circulated for public review and comment. No City decisionmakers have expressed any interest in changing the Ordinance to allow more flights. In fact, most have stated very strong support for maintaining the restrictions in the Ordinance.

Response 2

Your comment is noted; however, the objective of the Proposed Project is to provide the necessary facilities to better serve passengers at Long Beach Airport. The sizing of the terminal improvements, including the number of gates and aircraft parking spaces, was based on the HNTB study. This study used general industry standards to determine reasonable sizing of facilities to serve the minimum passenger levels provided for by the Airport Noise Compatibility Ordinance. As indicated in the EIR HNTB's forecast yielded a demand for 14 peak hour aircraft parking positions. One additional position was added to accommodate off-schedule aircraft (typically 15 percent or more of arrivals at Airports are more than 15 minutes behind schedule), and added a further additional position (for a total of 16) to allow for the accommodation of a spare airline aircraft (for example, JetBlue Airways keeps a spare aircraft at Long Beach Airport in order to help mitigate departure delays caused by late arriving aircraft). A comparison of actions taken at Los Angeles International Airport (LAX) to Long Beach Airport is not valid. As indicated above, the increase in the number of gates from 8 to 11 and the number of aircraft parking spaces from 10 to up to 14 would provide for a basic level of service. Where as in 1996, when the LAX Master Plan was prepared, LAX had 165 gates, which would be reduced to 153 by 2015. These are actual (or nominal) gates. The Master Plan also discusses Narrow Body Equivalent Gates (NBEG). The airfield could handle more gates if only Narrow Body aircraft (e.g., B727, B737, A320) were used. Calculating for NBEG in for 1996 LAX would provide 184.6 NBEG, which would be reduced to 178.9 NBEG in 2015. With a facility of this size there are multiple opportunities to accommodate late flights, aircraft that are remaining overnight, and spare aircraft. The LAX Master Plan and settlement agreement projects an increase in passenger levels from approximately 60 MAP to 78 MAP, an almost 30 percent increase. The limited facilities at Long Beach do not provide for these opportunities. Additionally, please refer to Topical Response 3.1.1, pertaining the relationship of the Proposed Project to any increase in flights.

Response 3

The City recognizes that currently the Airport is not fully implementing the minimum number of flights provided for by the Airport Noise Compatibility Ordinance. As the commuter flights are phased in there will be increased demand on the Airport facilities. Additionally, the existing facilities are only marginally serving the people using the Airport at this time. Currently during peak periods, the gates at the Airport are completely utilized. Holdroom spaces during peak periods are at capacity. Increases in the number of passengers would pose potential safety issues and the City's ability to meet fire and safety codes would be compromised. Additionally, the Transportation Security Administration (TSA) has indicated that they need permanent, covered facilities to properly do the challenging job entrusted to them under the Aviation and

Transportation Security Act. Additionally, there is desire to enhance the facilities by having one unified design rather than the clutter of various trailers used as temporary holdrooms and tents that have been set up to provide cover for security screening. Please see Topical Response 3.1.8 pertaining to visual impacts associated with the Proposed Project.

COMMENTER 147 THERESA DODGE
Dated: December 21, 2005

Response 1

Draft EIR Section 3.6 provides a complete summary of health effects of noise in the subsection entitled 'Effect of Noise on Humans' (page 3.6-3), which includes a discussion of sleep disturbance due to noise (page 3.6-4, 2nd paragraph). Included are charts describing the causes and prevalence of awakenings (Exhibit 3.6-3) and Sleep Disturbance Research (Exhibit 3.6-4). Exhibits 3.6-10a and 3.6-10b and 3.6-11a and 3.6-11b provide single event noise contours that can be used with the sleep disturbance curves of Exhibit 3.6-4. Remember that Long Beach has a night restriction and that there are few night operations of commercial aircraft. There were a total of 531 night operations at the Airport in 2004, as shown in Table 3.6-5. About half of these occurred within the first 10 minutes after 10 p.m. Only 25 operations occurred after 11 p.m. for the whole year. About half are departures and half are arrivals so any given resident would hear only 12 to 13 flights between 11 p.m. and 7 a.m. during the whole year. The night operations were primarily Airbus A320 operations. The single event contours for these aircraft are shown in Exhibit 3.6-10a for arrivals and 3.6-11b for departures. You can see from these exhibits that the 85 SEL contour does include homes just north and just south of the airport. The outdoor noise level of 85 sound exposure level (SEL) would be about 73 SEL indoors with windows and doors open. Exhibit 3.6-4 shows that approximately 7 percent of the awakening occurs at this noise level. This means that for homes within this 85 SEL contour, approximately seven percent of the population would be awakened because of the infrequent night operations. The Draft EIR recommends that sound insulation be provided for those homes with the highest noise levels as determined by the location of the 65 CNEL contour.

Response 2

See Response 1 for discussion of awakening rates for the night operations. Section 3.6 of the Draft EIR does not describe sleep interference as an annoyance. Sleep interference is discussed independently of annoyance issues. They are separate topics. However, the noise standards adopted by the State of California in the Airport Noise Regulations, and the noise and land use guidelines recommended by the FAA, are based on studies of sleep disturbance and annoyance issues in addition to speech interference and activity interference. That noise standard, 65 CNEL, is used as a measure of the significance of a noise impact.

Response 3

Exhibit 3.6-3 is taken from the JA Horne, FL Pankhurst, LA Reyner, K Hume, ID Diamond study entitled "A Field Study Of Sleep Disturbance: Effects Of Aircraft Noise And Other Factors On 5,742 Nights Of Actimetrically Monitored Sleep In A Large Subject Sample," American Sleep Disorders Association and Sleep Research Society, (1994 Mar 17[2]:146-59) reference 7 which can be found in the journal produced by the Draft EIR Appendix F, page F-12 and page F-69). It should be noted that this reference includes a typographical error on appendix page F-69.

Response 4

The percent awakening at the noise levels referenced in the comment are very low and approach zero at that level. There are no noise standards based on sleep disturbance and the Draft EIR has presented CNEL and SENEL contours over the relevant areas of the community. Given the night restrictions that are in place at Long Beach Airport, further studies of sleep disturbance are not warranted.

Response 5

Yes, Table 3.6-5 lists night operations as an existing condition. A total of 531 night operations occurred. That is the sum of the arrivals and departures. Any given residence would hear only half of the 531 operations, or about 265 operations per year between 10 p.m. and 7 a.m. The Draft EIR presents single event noise contours and research results on the probability of awakening. These are described in Response 1. Research has also been provided (Exhibit 3.6-3) that aircraft noise is not the major cause of night disturbance even at airports with substantial night operations. It is clear from these data that the rate of night sleep disturbance is low and has not been identified as a significant noise impact.

Response 6

Please see Responses 1 through 5, above, which address this issue.

Response 7

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. Please see Responses 1 through 5, above, which address this issue. CNEL is a noise metric specifically designed for assessing airport noise impacts and has wide use throughout California for making noise assessments including the effects of night time noise. CNEL was used in the Draft EIR to assess impacts and to make mitigation recommendations.

COMMENTER 148 ROBERT GUMBINER, MUSEUM OF LATIN AMERICAN ART
Dated: December 21, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 149 ASHLEY DVORIN
Dated: December 21, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 150 BRITTANY F. DVORIN
Dated: December 21, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 151 FANNIE DVORIN
Dated: December 21, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 152 ROBERT GUMBINER, MUSEUM OF LATIN AMERICAN ART
Dated: December 29, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 153 JEFF STEWART
Dated: December 30, 2005

Response 1

Currently, no new concessionaires have been selected or are on standby. Given that the EIR has not been certified or an alternative selected, identification of concessionaires is premature. Additionally, terminal improvements are not projected to be completed until 2009. The City has a standard process for selection of concessionaires. Information on this process can be obtained from the Airport office.

COMMENTER 154 CHRISTOPHER R. & ELLEN L. POOK
Dated: December 30, 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 155 ELAINE BROGAN
Dated: December 2005

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. The Proposed Project would not change flight paths, type of aircraft use, or any other operational component that would affect crash risk.

Response 2

Minnie Gant Elementary School located at 1854 N. Britton Drive was one of the sensitive receptor locations evaluated in the study. It is listed as School 30 in the table entitled, “Schools within Vicinity of Airport” in Attachment H of the technical report in Appendix C.

Section 5.6.2.2.2 of the technical report in Appendix C describes the chronic risks and hazards for school children. The maximum incremental chronic risks for the maximally exposed school child for cancer risks (located at Burcham Elementary School located at 5610 Monlaco Road) are far below the significance threshold of 10 in one million. Similarly, the maximum incremental

chronic non-cancer hazard for the maximally exposed school child for non-cancer risks (George Washington Carver Elementary School located at 5355 East Pavo Street) are far below the significance threshold of 1. Incremental risks and hazards evaluated at all other schools are even lower than these reported for the maximally exposed schools and consequently are also below the significance thresholds.

Acute hazards are discussed in Section 5.6.2.3.2 of the technical report in Appendix C. As shown in Table 5-15, the acute hazards for School 30 (Minnie Gant Elementary School) range from 0.04 to 0.07 for the alternatives. These acute hazards are also below the significance threshold of 1.

The incremental risks for these receptors are also presented in the Draft EIR in Table 3.2-15 and the incremental hazards are presented in Table 3.2-18.

Response 3

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 156 KAMRAN DADSETAN
Dated: January 4, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 157 DEBBY THOMPSON
Dated: January 4, 2006

Response 1

The Proposed Project would not provide for any additional flights. The Proposed Project is limited to facilities improvements (please see pages 2-7 through 2-15 of the Draft EIR and Topical Response 3.1.1 for a description of the improvements proposed).

Response 2

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. Though the Proposed Project would not result in any increased noise levels, the EIR recommends the adoption of a Land Use Compatibility Program as a method of reducing impacts to homes within the 65 CNEL contour. Based on 2004 data files, adjusted to reflect the additional flights and change in fleet mix, there would be 11 residences within the 65-70 CNEL contour under the Optimized Flights Scenario. As indicated in the Draft EIR (page 3.6-26), these impacts are not a result of the Proposed Project. At this point, the details of the program are not known. If the mitigation measure were adopted by the City Council, the program would be developed within 24 months of certification of the EIR.

COMMENTER 158 DON THOMPSON
Dated: January 5, 2006

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 159 LAUREL D. HOWAT
Dated: January 6, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. It should be noted that changes in how the airport/terminal operates today preclude going back to an earlier plan and that the original horseshoe design, if implemented, would significantly impact both the existing MillionAir and Gulfstream sites.

COMMENTER 160 KARYN HAACK
Dated: January 17, 2006

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. The commenter does not provide specific details regarding her concerns pertaining to noise, air quality, neighborhood cohesion, and city accountability; therefore, specific responses are not possible.

COMMENTER 161 LESLIE MAREK
Dated: January 17, 2006

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. The EIR does recommend the adoption of a land use compatibility program for homes within the 65 CNEL or schools within the 60 CNEL. It should be noted that the Proposed Project provides improvements to the existing Airport Terminal Building and related facilities at the Airport in order to accommodate recent increases in flight activity at the Airport consistent with operational limitations of the Airport Noise Compatibility Ordinance and the 1995 Settlement Agreement. It does not provide for an increase in the number of flights. At the direction of the City Council, the EIR did evaluate a potential increase in the number of flights consistent with the provision of the Airport Noise Compatibility Ordinance. The additional flights are flights that would be allowable under the Airport Noise Compatibility Ordinance with or without the Proposed Project, provided the airlines were able to sufficiently reduce noise levels through methods such as using quieter aircraft and reducing the number of late night operations. It is not intended or sized to accommodate flights and passenger levels beyond those already provided for in the Ordinance. For more information regarding this topic, please refer to Topical Response 3.1.1 regarding the project description.

Response 2

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 162 LINDA BROWN
Dated: January 18, 2006

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. The project description provided in Section 2.5 of the Draft EIR clearly identified the various components of the Proposed Project where an increase in the square footage was proposed.

COMMENTER 163 GILLIAN STORMONT
Dated: January 18, 2006

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. A key component of the Proposed Project is to maintain the historical integrity of the Terminal Building and the City and the Cultural Heritage Commission will ensure this is done to the maximum extent feasible.

COMMENTER 164 LONG BEACH HERITAGE
Dated: January 20, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 2

A Certificate of Appropriateness (C of A) must be issued by the Cultural Heritage Commission to construct the Proposed Project. Prior to issuing the C of A, the Cultural Heritage Commission will review the Proposed Project during a noticed public hearing. It would be appropriate that Long Beach Heritage participate in the historic compatibility review process at that time.

COMMENTER 165 MR. & MRS. JAMES L. DENISON
Dated: January 21, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. The statements in the EIR that the Proposed Project would not result in an increase in the number of flights allowed at the Airport are an acknowledgement that the Airport Noise Compatibility Ordinance regulates the number of flights and therefore, indirectly, the associated number of passengers. As discussed in the Draft EIR on pages 2-2 and 2-3, to resolve protracted litigation involving the Airport, the City and the airlines entered into a stipulated settlement agreement. The settlement agreement provisions were incorporated into the City's Airport Noise Compatibility Ordinance. The principle terms of the settlement included provisions for a minimum of 41 daily airline (commercial) flights and 25 daily commuter flights, all of which are assumed to be Stage 3 aircraft. Additionally, there is the ability to increase the flight activity limits if it can be demonstrated that flights can be added without airlines or commuters exceeding their allocated portion of the CNEL noise budget based on the 1989–1990 baseline year. As such, the ability to increase the number of flights is not related to the

terminal facilities that have been provided. Refer to Topical Response 3.1.1 regarding the relationship of the Proposed Project to increased flights and the Airport Noise Compatibility Ordinance.

It should also be noted that the 1955 ballot measure and supporting documents clearly indicated that Runway 30 may be used for commercial service. In 1955, a bond initiative was undertaken in order to extend the main runway at Long Beach Airport. The initiative, labeled Bond Proposition No. 1 – Airport Improvements, qualified and was voted on in a special election held on February 9, 1956. The bond measure passed by nearly a 3-to-1 margin.

A document dated in 1955 and prepared by the Long Beach Office of City Manager stated the following:

> The objective of this project is to provide the Long Beach Municipal Airport with runway facilities suitable for the most modern aircraft. The present diagonal runway is 6,900 feet in length. It has been recognized for some time that, because of the landing and takeoff requirements of modern aircraft, this runway is in need of extension to a length of 10,000 feet. This extension is required to provide the Douglas Aircraft Corporation with adequate runway facilities to accommodate jet transport aircraft which they plan to produce, as well as to provide capacity for commercial transport and cargo aircraft of this type as they are put into general service by the airlines.

The final paragraph of the three page correspondence states:

> The primary purpose in lengthening an airport runway is for safety—safety for aircraft operators, passengers, and adjacent residents. While there are many other benefits to be gained by extending the diagonal runway at the Municipal Airport, the foremost objective is to enhance the safety of its operation.

The research shows that there was much discussion about the proposed runway extension and that many residents and community groups opposed the idea. On December 5, 1955, the Parents and Property Owners Protective Association submitted letters to the Long Beach City Council, Long Beach Board of Education, and to All Parents opposing the project. The organization stated opposition to the project was:

> …would encroach on buffer areas established years ago for the required protection of residents living at each end of the proposed extension of the subject runway and particularly the extension across Lakewood Blvd.
>
> With the limited number of 10,000 foot runways in our Nation, it is expected that many accommodation landings and take-offs of multi-jet type aircraft will be made, plus the 'testing' of multi-jet commercial transports and 'testing' of military jets, as proposed to be built in this area. This would seriously jeopardize the lives of some seventy thousand people and over four hundred million dollars in homes and other properties, which would be located in the high hazard areas.

It should be noted that in each of the three letters, there is a clear reference to the future use of the extended runway by multi-jet aircraft and multi-jet commercial transports.

Other notable decisions and/or actions taken related to the use of Long Beach Airport for current and future commercial passenger service include the following:

- Long Beach City Council Resolution C-6422, Feb. 9, 1938—"Long Beach Airport will, for all times, be operated and maintained for public benefit and without discrimination against or in favor of any person or corporation, including any scheduled airline operator in consideration of federal funds available through Works Progress Administration for improvements at the airport."

- Feb. 28, 1938—Four big airlines (United, TWA, American, Western) announce plans to use Long Beach Municipal Airport.

- Dec. 2, 1940—New Western Air Express & United Airlines service begins from Long Beach

- Jan. 14, 1942—Eastern Air Lines returns to Long Beach; service stopped by war resumes.

- Jan. 5, 1950—Southwest Airways establishes terminal at Long Beach airport for the airline's Phoenix route.

- Oct. 31, 1952—Flying Tiger Airlines begins Long Beach operations.

Copies of these documents can be viewed at the Airport's Public Information Office.

Response 2

The Draft EIR addressed the alternatives directed by the City Council. It is believed that the commenter is referencing the discussion of the environmentally superior alternative. On page 4-9 of the Draft EIR, it stated, "However, based on the *Facility Requirements Analysis, Long Beach Municipal Airport*[78] study which was prepared during the scoping process, the recommended sizes of the facilities to best meet the needs for the passengers, visitors, and tenants actually exceeded the square footage allocation of even the Proposed Project." The conclusion was the Proposed Project would be environmentally superior because it would best meet the project objective without resulting in substantially greater impacts than those that would be expected with the other build alternatives. It did not address an alternative that reflected the recommendations of the HNTB study or the Airport Advisory Commission recommendations.

The distribution of the square footage for each of the alternatives is provided in the Draft EIR in Table 2-5. The total square footage for each alternative studied in the Draft EIR is:

Proposed Project	102,850sf
Alternative A	97,545sf
Alternative B	79,725sf
No Project	56,320sf

Each of these figures represents the total square footage of the improvement, including the existing terminal building. To understand the amount of square footage being added for each alternative, the current square footage (No Project) must be subtracted from the total amount identified for each alternative. The maximum square footage to be added to the existing terminal is 46,530 square feet. Refer to Topical Response 3.1.3 regarding alternatives to the Proposed Project.

[78] HNTB 2004

Response 3

As discussed in the Draft EIR (Section 3.8, Transportation and Circulation) the traffic generation figures were based on a study of current operations (pages 3.8-2–3.8-3) at the Airport. If there is currently a large number of people being dropped off at the Airport to avoid parking charges this would have been reflected in the study done which was based on actual trips at Long Beach Airport. Similarly, the parking demand was based on the *Long Beach Airport Parking Adequacy Analysis Study* conducted by International Parking Design for the Airport in 2001. The report concluded that 2.75 parking spaces would be needed for each 1,000 annual enplanements. For further discussion of traffic generation rates please see Topical Response 3.1.7.

It is impossible to determine the number of passengers dropped off specifically for the purpose of avoiding paying parking fees; furthermore the level of future parking fees is unknown.

Response 4

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. During the scoping process, many members of the public expressed a concern that the improvements to the Airport would change the open-air access that is currently available or that a second story on the terminal building, which is required for Jetways, would be used to expand the Airport further in the future. Therefore, it was decided to propose a design that would not accommodate a second story and could not provide for Jetways. This allows the character of the Airport to be maintained. Provisions have always been made to ensure access to aircraft in compliance with the Americans with Disabilities Act (ADA). ADA compliance related to aircraft access from the tarmac is the responsibility of each airline. The City currently provides ADA lifts for use by the airlines and has recently purchased ADA ramps. JetBlue is currently using ADA ramps at the Airport. These ADA lifts and boarding ramps have eliminated the need for airline employees to lift and carry disabled passengers up the boarding stairs.

Response 5

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

Response 6

The commenter is correct. The Draft EIR recommends sound insulation for homes within the 65 CNEL, per the State of California Airport Noise Regulations, and schools within the 60 CNEL. The City of Long Beach does not have a policy of identifying homes within the 60 CNEL as impacted or for insulating these homes.

Response 7

Please see Topical Response 3.1.1, which pertains to the relationship between the Proposed Project, increased flights, and the Airport Noise Compatibility Ordinance.

COMMENTER 166 JEFF HUSO
Dated: January 24, 2006

Response 1

As discussed in the Draft EIR on pages 2-2 and 2-3, to resolve protracted litigation involving the Airport, the City and the airlines entered into a stipulated settlement agreement. The settlement

agreement provisions were incorporated into the City's Airport Noise Compatibility Ordinance. The principle terms of the settlement included provisions for a minimum of 41 daily airline (commercial) flights and 25 daily commuter flights, all of which are assumed to be Stage 3 aircraft. Additionally, there is the ability to increase the flight activity limits if it can be demonstrated that flights can be added without airlines or commuters exceeding their allocated portion of the CNEL noise budget based on the 1989–1990 baseline year. The DEIR addresses these flights because it must under the terms of the Airport Noise Compatibility Ordinance.

Response 2

Your comment is noted. The potential increased impacts associated with having less than 14 parking spaces is discussed on page 4-9 of the Draft EIR in the discussion of the environmentally superior alternative. Specifically, the Draft EIR states,

> Another consideration when selecting the environmentally superior alternative is the consideration on the number of aircraft parking positions. The Proposed Project was evaluated with 14 parking positions. The project description identifies between 12 and 14 parking positions. However, the reduction to 12 parking positions would potentially result in an increase in air quality emissions. Based on Department of Transportation data, approximately 15 percent of the arrivals at the Airport are late. When aircraft arrive late during peak hours there would not be an available parking position at the terminal. As a result, the aircraft would need to wait until a position becomes available. In those cases the overall air emissions would increase from aircraft idling. The Proposed Project does not result in substantially greater impacts than the other build alternatives. Therefore, the Proposed Project is the environmentally superior alternative.

The increase in the number of aircraft parking spaces is intended to reduce the instances of aircraft having to idle while waiting for a gate. The idling of aircraft increases the air emissions at the Airport. A basic premise of the Proposed Project is that there would be no modifications to the Airport Noise Compatibility Ordinance. As discussed throughout the Draft EIR, the Proposed Project would not directly or indirectly affect the number of flights at the Airport. The Proposed Project does not propose any modifications to the adopted Airport Noise Compatibility Ordinance. In order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations.

Response 3

Your comment is noted, however, it would be inaccurate for the DEIR to suggest that only Alternative 3 "cannot encourage more flights and noise" as the commenter suggests. Please see Topical Responses 3.1.1 and 3.1.4, which pertain to the relationship between the Proposed Project, increased flights, and the Airport Noise Compatibility Ordinance, for additional discussion of this issue.

Response 4

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

Response 5

The quote from the World Health Organization (WHO) document provided on Page F-15 is being misinterpreted by the commenter. Here is the quote:

> The overall conclusion is that cardiovascular effects are associated with long-term exposure to LAeq, 24h values in the range of 65–70 dB or more, for both air- and road-traffic noise. However, the associations are weak and the effect is somewhat stronger for ischemic heart disease than for hypertension.
>
> Other observed psychophysiological effects, such as changes in stress hormones, magnesium levels, immunological indicators, and gastrointestinal disturbances are too inconsistent for conclusions to be drawn about the influence of noise pollution.
>
> [Source: WHO Guidelines, Section 3.5, Cardiovascular and Physiological Effects]

The first paragraph indicates that these effects occur with noise exposure above 65–70 and that there is not a strong association between noise levels and these effects. That is, there may not be effects even at the higher noise levels. The commenter is incorrect in trying to assert that this means the effects may occur at lower noise levels. The second paragraph makes clear that other effects have also not been associated with noise pollution because observed effects are too inconsistent. The commenter confuses the word inconsistent and inconclusive. The fact is that the WHO does not conclude that health effects occur at levels less than 65 CNEL and that is what is reflected in the Draft EIR.

Response 6

This comment principally expresses the opinion of the commenter. The historical summary that the commenter presents is not accurate, though this information is not relevant to the Proposed Project. A more accurate historical summary is presented in Sections 1.3.3. and 2.2.2 of the Draft EIR. Your comment has been forwarded to the decision makers as part of the Final EIR submittal. Please see Topical Response 3.1.1, which pertains to the relationship between the Proposed Project, increased flights, and the Airport Noise Compatibility Ordinance.

Response 7

The rationale for such an easement comes from State Law. The California Airport Noise Regulations, Title 21 of the *California Administrative Code* define noise impact boundaries for airports. If an airport has sound insulated homes or obtained an easement, the subject property in deemed compatible. The language in the regulation is as follows:

5014. Incompatible Land Uses Within the Noise Impact Boundary.

For the purpose of determining the size of the noise impact area, the following land uses are incompatible:

(a) Residences, including but not limited to, detached single-family dwellings, multi-family dwellings, high-rise apartments or condominiums, and mobile homes, unless:

(1) an avigation easement for aircraft noise has been acquired by the airport proprietor, or

(2) Public and private schools of standard construction for which an avigation easement for noise has not been acquired by the airport proprietor, or that do not have adequate acoustic performance to

ensure an interior CNEL of 45 dB or less in all classrooms due to aircraft noise;

Note that the State regulation does not define what the terms of the easement must be. The proposed land use compatibility program would be adopted by the City within 24 months after project approval. Whether or not avigation easement would be a required condition of any such program and, if so, the terms of the easement would be determined at the time the Council approves the program.

Response 8

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 167 LONG BEACH AIRPORT ASSOCIATION
Dated: January 25, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 168 DICK & PAT BAMNICK
Dated: January 26, 2006

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 169 CAMILLE MARIE SEARS
Dated: January 26, 2006

Response 1

The commenter refers to the introduction of the EPA's *Meteorological Monitoring Guidance for Regulatory Modeling Applications*[79] (herein referred to as Monitoring Guidance) to indicate that the 1985 Long Beach Airport meteorological data used in the Draft EIR air quality and human health risk analyses are not suitable for air dispersion modeling. The Monitoring Guidance was published in early 2000 and predates AERMOD. It was developed for cases where no reasonable representative meteorological data are available or in cases where regulations require on-site measurements to be taken. Furthermore, the Monitoring Guidance does not provide guidance on collection procedures or acceptable data for use in AERMOD. Specifically, AERMOD is designed to accept the Solar and Meteorological Surface Observational Network (SAMSON) data, through its meteorological preprocessor, AERMET.

The quotation from the Monitoring Guidance provided by the commenter is also taken out of context and is not applicable to the modeling completed for Long Beach Airport. The full quotation refers to Section 6.7 of the Monitoring Guidance. The pertinent part of Section 6.7 of the Monitoring Guidance states (emphasis added):

[79] EPA, 2000 (February). *Meteorological Monitoring Guidance for Regulatory Modeling Applications*, EPA-454/R-99-005, Research Triangle Park, NC: EPA, Office of Air Quality Planning and Research. p.1-1.

> Although data meeting this guidance are preferred, *airport data continue to be acceptable for use in modeling. In fact observations of cloud cover and ceiling, data which traditionally have been provided by manual observation, are only available routinely in airport data*;…[80]

The selection of the meteorological data set for use in this analysis was reviewed and approved by the South Coast Air Quality Management District (SCAQMD),[81] the primary air pollution control agency with jurisdiction over the project site. In accordance with Health and Safety Code Section 40412, SCAQMD is the sole and exclusive local agency within the South Coast Air Basin with the responsibility for comprehensive air pollution control, and it has the duty to represent the citizens of the Basin in influencing the decisions of other public and private agencies whose actions might have an adverse impact on air quality in the Basin.[82] In its role as a commenting agency under CEQA, it is charged with advising the lead agency on appropriate methods for evaluating the air quality impacts of a Proposed Project. The opinions of the commenter notwithstanding, consultations with SCAQMD regarding selection and use of the meteorological data for these analyses should indeed provide the reader a high degree of comfort, since (1) the EPA's Monitoring Guidance indicated that airport data are acceptable for use in modeling; (2) the meteorological data used were collected at the Long Beach Airport; (3) the data was obtained in a format that AERMOD is designed to accept; and (4) the meteorological data used in the analysis was approved by the SCAQMD. There are no compelling reasons to collect "pre-construction" meteorological data for use in the modeling to support the air quality and human health risk analyses in the Draft EIR. The approach used to select the meteorological data is described in the Draft EIR, Appendix C, Attachment G – Meteorological Data Selection Report.

The commenter states that the airport meteorological data used in the modeling should not be used since its measurements are biased due to airport activities. Although localized activities may have an effect on the meteorological data, these same activities are the sources being evaluated in this Draft EIR. As such, the airport meteorological data used in the modeling is the most representative of the location and is acceptable for use in AERMOD.

The assertion by the commenter that the meteorological data used in the preparation of the Draft EIR is unsuitable due to the continued refinement of air dispersion models is not valid. While models have changed over time, airport collection of meteorological data has not changed as a result of developments in air quality models. Models have been developed with the intent to allow the users to use available, acceptable data. As with any analysis, there are optimal tools, acceptable tools, and ill-advised tools. This analysis was performed using tools and data acceptable to SCAQMD and adhering to applicable regulatory modeling guidelines. Santa Barbara County Air Pollution Control District rules are irrelevant and not applicable to this analysis. The CEQA process is not a permitting process, and even if the Proposed Project were being proposed in Santa Barbara County, that county's PSD Rule would not apply to it.

Response 2

The process of meteorological data for the Long Beach Terminal Improvement Project Draft EIR is detailed in Appendix C, Attachment G – Meteorological Data Selection Report. As noted in that report, the selection of 1985 meteorological data was based on comparison of pollutants (NO_x and VOC) with different characteristics and sources; comparison of model years with

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80 EPA, 2000 (February). *Meteorological Monitoring Guidance for Regulatory Modeling Applications*, EPA-454/R-99-005, Research Triangle Park, NC: EPA, Office of Air Quality Planning and Research. p.6-30.

81 Personal communication, email from SCAQMD (T. Chico) to CDM (J. Pehrson) on September 2, 2005.

82 SCAQMD. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA: SCAQMD. p. 2-4.

different emission factors and scenarios; and comparison of different averaging periods for the same pollutant and scenario. The selection of one-hour and annual averaging periods in a given model run represent the widest variation achievable in a one-year analysis. As noted in Attachment G, the maximum one-hour and annual average concentrations for all runs occurred with the 1985 meteorological data. Therefore, it is very likely that the maximum 24-hour average concentration would have occurred in 1985 as well.

In addition, the 24-hour averaging period is associated with the ambient air quality standards (AAQS) for particulate matter (both PM_{10} and $PM_{2.5}$), and sulfur dioxide (SO_2). As is shown in the Draft EIR, Section 3.2, Table 3.2-13 (page 32-35) and Appendix C, Table 4-7 (page 4-15), the existing measured PM_{10} 24-hour average concentration exceeds the California AAQS, and the project incremental PM_{10} impact is above the significance threshold and unavoidable, even after mitigation. Therefore slight modifications of the results by additional modeling will not change this conclusion. The existing measured $PM_{2.5}$ 24-hour average concentration is less than (i.e., better than) the National AAQS, and the modeled project contribution to $PM_{2.5}$ concentrations would need to increase by more than a factor of 5 (or by approximately 500 percent) to exceed the National AAQS. This is not likely, based on the variation seen in the modeled results presented in Appendix C, Attachment G. The emissions of SO_2 did not exceed significance thresholds; therefore, no dispersion modeling was required for SO_2.[83]

Finally, since acute hazard indices are based on the one-hour averaging period in the model, as are the one-hour CO and NO_2 project impacts, these impacts have been adequately identified in the Draft EIR since 1985 produced the highest one-hour average of the years identified. Again, the variations in concentrations shown in Attachment G to Appendix C of the Draft EIR are not sufficient to warrant additional modeling of CO or NO_2 concentrations based on the project incremental impacts shown in the Draft EIR, Section 3.2, Table 3.2-13 (page 3.2-35).

Response 3

AERMOD is designed to use upper air soundings provided in the TD6201 format. The TD6201 sounding data for San Diego Montgomery Field (Station ID 03131) was used in this analysis. This is the nearest, coastal upper air station with soundings for the same year as the surface data.

The measurement height for the profile data was consistently set at 9.4 meters. Additionally, the wind speed at the measurement height ranged from 1.1 miles per hour (mph) to 27.5 mph, while the temperature ranged from 35.1 degrees Fahrenheit (°F) to 107.1°F. The mean wind speed and temperature were 7.0 mph and 64.2°F, respectively. The mean wind direction was at 333 degrees, indicating the wind is predominantly blowing from the northwest. Information regarding the standard deviation of the wind direction fluctuations and the standard deviation of the vertical wind speed fluctuations were reported as missing in all cases. The wind direction sectors and surface parameters for the meteorological data file were set to an urban land use type. The default parameters for urban land use were selected; therefore, the albedo, Bowen ratio, and surface roughness were uniformly set to 0.2075, 1.625, and 1, respectively.

The commenter makes an extensive data request for all of the air dispersion modeling input and output. The air quality impact analysis and human health risk assessment were conducted following the protocol developed in coordination with the South Coast Air Quality Management District and California Air Resources Board, as presented in the Draft EIR, Appendix C,

[83] The existing measured 24-hour average SO_2 concentration is a factor of 3 lower than (i.e. better than) the California AAQS (Draft EIR, Section 3.2, Table 3.2-6, page 3.2-24). Modeling of SO_2 concentrations is typically not required unless a project's SO_2 emissions exceed the emission CEQA thresholds set by SCAQMD.

Attachment A – Final AQIA and HHRA Protocol. Pertinent input and output data are presented in the Draft EIR, Appendix C:

Attachment B – Hourly, Daily, and Monthly Temporal Profiles;
Attachment C – Baseline Aircraft Operations Summary;
Attachment D - 2020 Forecast Operations Report;
Attachment E – Roadway Fleet Mix;
Attachment F – Construction Emissions;
Attachment G – Meteorological Data Selection Report;
Attachment H – Receptor Locations;
Attachment I – Airport Contributions to Criteria Pollutant Concentrations; and
Attachment J – Incremental Risk and Hazard Calculations for Peak Receptors.

Since the Long Beach Airport Terminal Improvement Project does not change the airport noise ordinance which limits the allowable airport activity, the operational air quality impacts are not much different between the project and no project scenarios. The only project-related air quality impacts are from construction emissions as the facilities are being built. Construction air quality impacts are summarized in the Draft EIR, Section 3.2; discussed in Appendix C, Sections 3.2.1, 4.2.1.1 and 5.6.2.4; and detailed construction emission calculations are presented in Appendix C, Attachment F. This analysis presents a good faith effort to disclose the important parameters that effect the results.[84]

Response 4

The commenter is incorrect in stating that acute exposure for on-Airport workers was evaluated using PELs. Acute exposure was evaluated by comparison to California one-hour RELs, as provided in Section 5.6.2.3 of the *Air Quality Impact Analysis and Human Health Risk Assessment Technical Report.* As described in Section 5.6.2.3.1, the OEHHA acute REL for acrolein of 0.19 $\mu g/m^3$ was used for the calculations of acute hazards. Table 5-17 in the DEIR presents the incremental acute non-cancer hazards for on-Airport workers based on estimated maximum one-hour acrolein concentrations. For on-Airport workers (and passengers), the highest incremental acute HQ for the 2011 Project scenario was 0.37 and the maximum incremental acute HQ for the 2020 Project scenario was 0.49; both of these are less than the significance threshold of 1.0. Because passengers would not be in the restricted areas where TACs are expected to be highest, it would be expected that the acute acrolein hazards for passengers would be even lower than that calculated for the on-Airport workers.

Moreover, the comment concerning potential passenger exposures is speculative and does not recognize the discussion presented in the Draft EIR. The *Air Quality Impact Analysis and Human Health Risk Assessment Technical Report* is provided as Appendix C of the Draft EIR. As stated in Section 5.3 of Appendix C,

[84] The purpose of CEQA is to compel government at all levels to make decisions with environmental consequences in mind (14 C.C.R. Section 15003[g]). CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure (14 C.C.R Section 15003[i]). An EIR is an informational document which will inform public agency decision-makers and the general public of the significant environmental affect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project (14 C.C.R. Section 15121[a]). An EIR shall identify and focus on the significant environmental effects of the proposed project. The discussion should include relevant specifics of the "…health and safety problems caused by the physical changes…" (14 C.C.R. Section 15126.2[a]). Comments [on a draft EIR] are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects….When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR." (14 C.C.R. Section 15204[a]).

> On-Airport outdoor workers are located close to the major sources of emissions. These workers are expected to receive the highest exposures to TACs because a large percentage of aircraft idle and taxi times are spent at or near terminal gates, and because ground service equipment is concentrated near the gates. Aircraft and GSE account for almost all TAC releases at the Airport. On-Airport workers working outdoors near the terminal gates were, therefore, targeted for the assessment of possible on-Airport impacts…
>
> …Passengers at the Airport would also experience lower exposures to Airport-related air toxics than would outdoor workers at the gates. These people [passengers] visit the Airport only intermittently and for relatively short periods of time. Most of their time is spent indoors, and outdoor time is limited in duration as they travel from parking or shuttles to cars and terminals, as well as to and from aircraft while enplaning and deplaning. Exposures to passengers are expected to be among the lowest for on-Airport receptors. Workers that visit the Airport for deliveries might also experience intermittent, short-term exposures such as those envisioned for passengers. Some of these workers might visit the Airport more often than passengers, but overall their exposure should still be much less than outdoor on-Airport workers.

On this basis, passengers were not evaluated further.

The comparison to PELs described by the commenter was conducted for the evaluation of chronic exposure, not acute exposure as suggested by the comment. Chronic exposure for on-Airport workers was evaluated by comparing maximum eight-hour concentrations of TACs to benchmark concentrations established by Cal/OSHA and US/OSHA. Both Cal/OSHA and US/OSHA have established chemical-specific permissible exposure limits (PELs) at which no adverse effects are expected for occupational exposures. OSHA developed PELs in order to protect workers against the potential health effects of occupational exposure to hazardous substances expected as part of their jobs. Clearly, workers on the tarmac expect jet exhaust in their work place, and receive health and safety training for this and other hazards. Comparison to PELs is therefore appropriate for the evaluation of on-Airport worker chronic exposure. The more stringent of these PELs (Cal/OSHA PEL-time weighted averages [TWAs]) was used for the purposes of comparison to modeled on-Airport concentrations.

One should also recognize that chronic exposure to TACs at their maximum concentration during airport operations is purely hypothetical. On-Airport workers will move around the Airport and/or be located in an area removed from the point of highest exposure. Thus, on-Airport workers would experience lower air-borne concentrations of TACs than those used for the comparisons in the analysis. As stated in the Draft EIR, Appendix C, Section 5.6.2.1, the analysis suggests little potential for unacceptable exposure for on-Airport workers.

Response 5

The commenter implies that re-entrainment of particulate matter due to aircraft and other activity might be substantial and should be addressed. This assumes that there are significant quantities of particulate matter transported to the airport from off-airport sources, deposited in the aircraft operating area (e.g., runways, taxiways), and available for re-entrainment due to aircraft activities. However, because airports must maintain the aircraft operating area clear of foreign object debris that could potentially damage aircraft engines, field maintenance activities in this area conducted in accordance with FAA's Advisory Circular 150/5380-5B, Debris Hazards at Civil Airports, may be effective in reducing some deposited particulate matter.

The commenter suggests that a network of particulate samplers, measuring black carbon, $PM_{2.5}$, and PM_{10}, should be installed surrounding the airport. It is assumed the point of such an exercise would be to measure ambient air concentrations of these pollutants to establish their current impacts in the immediate vicinity of the airport. However, the existing North Long Beach air monitoring station (SCAQMD Station No. 072), which routinely measures PM_{10} and $PM_{2.5}$, was identified in the protocol (Draft EIR, Appendix C, Attachment A) as providing representative background for these pollutants; black carbon is not routinely measured. SCAQMD reviewed the protocol and did not object to the use of this station as providing representative background data. Therefore, no additional ambient air quality data need to be collected to support the Draft EIR.

The South Coast Air Quality Management District conducted a deposition study around Los Angeles International Airport (LAX)[85] in an attempt to determine that airport's impact on local deposition. Two of the conclusions reached in that study were:

> 8.4 Fallout Mass Data Summary
>
> Mass data from the fallout filters support the observations made with the use of glass plates. If aircraft were a significant contributor to fallout in the study area, one would expect a gradient to exist with higher fallout mass values closer to the airport. This finding was not observed by the mass data. Indeed the areas of highest ground traffic for the most part correspond to the samples that collected the greatest mass. Samples collected east of the 405 and 110 freeways generally displayed higher mass loading than did samples collected closer to LAX. The highest mass levels were observed at Hollywood Park. There is no discernable pattern of total fallout mass under LAX's flight path which would indicate a predominant influence from aircraft fallout.…
>
> 8.5 Elemental Carbon Data Summary
>
> The results for elemental carbon, derived from combustion sources, likewise do not point to a specific emissions source. The results plotted on the contour map shown in Figure 5 show the highest EC concentrations around Hollywood Park and east of both the 405 and 110 Freeways. Consistent with both microscopy and fallout mass results, motor vehicles, rather than aircraft, appear to be the significant source of EC measured in the study area since there is not an EC concentration gradient approaching LAX from the east.…

Since aircraft activity at LAX is substantially greater than that at Long Beach Airport, it is unlikely that Long Beach Airport aircraft activity have a substantial impact on fallout particulate matter. Instead, re-entrained road dust from traffic traveling to and from the airport is likely to be important with regard to PM_{10} and $PM_{2.5}$ ambient air quality standards. Re-entrained road dust (listed as fugitive emissions under roadways) impacts are included in the Draft EIR. Fugitive road dust is included as a line item in the emission inventories presented in Section 3.2, Table 3.2-9 (page 3.2-27) and in Tables 3-2–3-6 in Appendix C, Tables 3-2 through 3-6 (pages 3-11–3-15). Fugitive road dust represents a substantial portion of the project-related incremental PM_{10} and $PM_{2.5}$ concentrations presented in the Draft EIR, Section 3.2, Table 3.2-13 (page 3.2-35).

[85] SCAQMD. 2000 (September). *Inglewood Particulate Fallout Study Under and Near the Flight Path to Los Angeles International Airport*, Report No. MA2000-05, South Coast Air Quality Management District, Monitoring and Analysis, Diamond Bar, CA.

Additionally, Topical Response 3.1.5 provides additional information regarding airport deposition studies.

Response 6

With regard to the regulatory status of EDMS, it should be noted that FAA requested the removal of EDMS from the list of preferred regulatory air dispersion models because EDMS is not a single model but a linked set of emission and dispersion models and algorithms. Since 2001, EDMS has used the EPA's AERMOD model for dispersion calculations; EPA approved AERMOD for general use in the same Federal Register notice that removed EDMS from the list of preferred air dispersion models. Therefore, validation studies and performance evaluations are not necessary for use of EDMS as a dispersion model because those studies and evaluations have already been completed for AERMOD. In addition, EDMS has not been removed from the Guideline on Air Quality Models. Section 6.2.4 c. of this Guideline states that (emphasis added):

> The latest version of the Emissions and Dispersion Modeling System (EDMS), was developed and is supported by the Federal Aviation Administration (FAA), *and is appropriate for air quality assessment of primary pollutant impacts at airports or air bases.* EDMS has adopted AERMOD for treating dispersion. Application of EDMS is intended for estimating the collective impact of changes in aircraft operations, point source, and mobile source emissions on pollutant concentrations.…[86]

The specific changes to AERMOD Version 04300 as compared to AERMOD Versions 02222 and 04079 are presented below. In addition, Version 04300 includes the Plume Volume Molar Ratio Method (PVMRM) and Ozone Limiting Method (OLM) options for modeling conversion of NO_x to NO_2. Since the Long Beach Airport air quality analysis did not require special handling of NO_2, these options were not necessary. The changes and corrections noted below[87] also do not impact the results of the analysis conducted using AERMOD Version 02222; the dispersion modeling results provided in the Draft EIR would be the same whether using AERMOD Version 02222 or AERMOD Version 04300.

1. Dry depletion (DRYDPLT) and wet depletion (WETDPLT) are no longer optional for deposition applications. These options for removal of mass from the plume due to dry and/or wet deposition processes will automatically be invoked for applications in which dry and/or wet deposition are considered. The DRYDPLT and WETDPLT options on the MODELOPT card will be ignored, and need not be removed from the model input file for the model to run.

2. Correction made to area source algorithm, subroutine PLUMEF, to include a call to CRITDS to calculate the critical dividing streamline height for gaseous pollutants. Also modified PLUMEF to correct a problem with the AREADPLT option.

3. Corrections made to area source and openpit algorithms, in subroutines ACALC and OCALC, to include tilted plume for point source approximation of particle emissions, and to include reinitialization of _VAL arrays at end of receptor loop (reinitializations also included in PCALC and VCALC for point and volume sources for consistency). The latter correction fixes a potential problem with particle emissions for area sources when the point source approximation is used under the TOXICS option.

[86] 40 CFR 51, Appendix W, Section 6.2.4 c. (as amended November 9, 2005).

[87] AERMOD Version 04300 Readme.txt file. Available at http://www.epa.gov/scram001/dispersion_prefrec.htm

4. Corrected calling arguments for call to WAKE_SIG from subroutine WAKE_DFSN2, to use wakiz and wakiy instead of turbz and turby.

5. Minor correction made to wet deposition calculations to include lateral term (FSUBY) in weighting of direct and penetrated source contributions for WETFLUX.

6. Modified subroutine PRMCALC to place receptor on centerline of cavity plumes by setting Y2 = 0.0 for SCREEN option.

7. Modified subroutine SRCQA to calculate equivalent XINIT and YINIT values for AREAPOLY sources to allow for calculation of area of source under TOXICS option and for PVMRM option. Also modified SRCQA to include a more refined computation of centroid for AREAPOLY sources.

8. Included check in subroutine METQA for absolute values of Monin-Obukhov length (OBULEN) less than 1.0. Adjustment of OBULEN is made to limit ABS (OBULEN) .GE. 1.0. The sign of OBULEN is assigned the opposite of the sign of the heat flux if OBULEN is 0.0. This limit on OBULEN is already applied in AERMET, so this change in AERMOD will only affect input data generated by other means.

9. Moved call to SUB. METDAT ahead of call to SUB. SET_METDATA to avoid potential problem with negative (missing) precipitation for first hour.

10. Added range check on gas deposition parameters to trap on input of zero (0.0) values.

11. Modified subroutine METQA to reduce number of extraneous warning messages, especially for hours with missing meteorological data. Also modified range check for missing wind direction in subroutine CHKMSG.

12. Modified PLOTFILE output to include date field.

13. Modifications to some debug output statements based on code provided by ENSR.

COMMENTER 170 RAY MANNING
Dated: January 27, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Pursuant to Section 21100(b)(1) of the *California Public Resources Code*, the Draft EIR for the Long Beach Airport Terminal Improvement Project identifies all significant environmental effects that may result from implementation of the Proposed Project. In addition, it includes an analysis of cumulative projects in the vicinity of the Proposed Project.

In addition, it should be noted that the existing ambient pollutant concentrations listed in the Draft EIR, Tables 3.2-4, 3.2-6, and 3.2-8, include the contributions from all sources that impact the Long Beach Airport area, including the Ports of Los Angeles and Long Beach.

Response 2

Refer to Topical Response 3.1.5 regarding particulate matter emissions.

Response 3

Implementation of any adopted long-term control measures from the 2003 AQMP are not expected to occur until 2007, as shown on Table 4-8B of the 2003 AQMP. Therefore, it is not expected that any improvements associated with these measures would be measurable today.

Response 4

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 171 ALASKA AIRLINES
Dated: January 27, 2006

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 172 CHARLES L. MARVIN
Dated: January 29, 2006

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. As indicated on page 2-11 of the Draft EIR,

> There is a commitment to construct the new facilities to meet high standards for energy efficiency and environmental design. The intention is to construct the facilities consistent with the LEED standards. LEED, which stands for Leadership in Energy and Environmental Design is 'based on well-founded scientific standards, LEED standards emphasize state of the art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. LEED standards recognize achievements and promote expertise in green building through a comprehensive system offering project certification, professional accreditation, training and practical resources'. (U.S. Green Building Council, http://www.usgbc.org). This would be implemented through a variety of design features. Precise methods for accomplishing the LEED standards would be determined through project design.

It is recognized that construction of facilities in excess of what is required to serve the demand would not be efficient; however, it is also necessary to provide sufficient facilities to serve the demand. Construction of terminal improvements that would not serve the demand and necessitate other improvements or use of temporary modular buildings, similar to existing conditions, would not be environmentally superior. As indicated in the Draft EIR (page 1-25),

> …based on the *Facility Requirements Analysis, Long Beach Municipal Airport*[88] study which was prepared during the scoping process, the recommended sizes of the facilities to best meet the needs for the passengers, visitors, and tenants actually exceeded the square footage allocation of even the Proposed Project.

Refer to Topical Response 3.1.4 regarding the environmentally superior alternative.

[88] HNTB 2004.

Response 2

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that an extensive effort was made during the scoping process to address the appropriate sizing of the terminal area facilities. As summarized in the Draft EIR (Section 2.4, Project History), the AAC conducted a series of 15 public meetings on the size of the proposed improvements and the scope of the EIR. To support that effort, HNTB prepared a study report that considered a number of factors and made recommendations on the proposed improvements.[89] Factors considered included the number of flights, the number of passengers served, type of flights (i.e., short-haul and long-haul trips), and industry standards. Based on this scoping/outreach process, the AAC made a recommendation to the City Council on the size of the improvements. The AAC recommended approximately 133,000 square feet of terminal area. The City Council decided to reduce the maximum size of the facilities. The largest alternative evaluated in the Draft EIR was the Proposed Project, which would provide 102,850 square feet. These improvements were sized to serve the minimum 41 commercial flights and 25 commuter flights provided for in the Airport Noise Compatibility Ordinance.

Response 3

The noise analysis does include noise generated while the aircraft is on the ground. The noise monitoring system records all of the noise that it 'hears' regardless of whether or not the wheels are on the ground. The noise model used to generate the noise contours includes the takeoff roll, landing roll, and thrust reverser noise. The statement that "that the noise calculation disregarded the high level of noise when a jet is taking off and landing, when wheels are on the ground" is not true. The person or agency that gave "the public" this information was misinformed.

It should also be noted that the noise contours for the year 2004 included the military flights logged at the airport and the Optimized Flights Scenario assumed this same level of military operations. Table 3-1 of Appendix F lists the military flights used in the study. On the average day, there are 4.4 military and government operations.

Response 4

Please see Topical Response 3.1.5 - Methodology for the Air Quality Impact Analysis and Human Health Risk Assessment - regarding air sampling data near the Airport.

Regarding lead emissions, the emissions inventory does include lead emissions from piston-driven aircraft fueled on leaded aviation gasoline, as noted in the Draft EIR, Appendix C, Section 3.1.1.4. Lead emissions are summarized in Table 3-8 of Appendix C. Concentrations of lead are included in the Draft EIR, Section 3.2, Tables 3.2-13, 3.2-17, and 3.2-20. These lead concentrations do not exceed any significance thresholds or ambient air quality standards.

Quantitative analysis of any cumulative impacts of future projects at the Ports of LA and Long Beach and the 710 Freeway expansion are beyond the scope of this Draft EIR. The City has no way of knowing if and when such projects will be undertaken and what the timing and scope of the projects, if approved, might be. Any such projects conducted in the future would be subject to CEQA and would have to account for cumulative impacts, including those associated with airport improvement. Only at such time would sufficient information be available to assess potential cumulative health risks.

[89] U.S. Green Building Council (USGBC). 2005. LED: Leadership in Energy and Environmental Design. www.usgbc.org.

One Draft EIS/EIR completed approximately the same time as the Airport Draft EIR for a liquefied natural gas (LNG) terminal and associated facilities at the Port of Long Beach provided estimates of air concentrations and health risks associated with that facility at the nearest receptors to the Port (FERC 2005). Noting that the pollutant concentrations would decrease by approximately a factor of 10 as they are dispersed toward the Airport, the LNG project impacts will not increase the ambient air concentrations above any ambient air quality standards for those pollutants that were shown to be better than the standards in the Airport Draft EIR (CARB 2005). In addition, the health risks near the Airport associated with the LNG facility operation, after accounting for dispersion from the Port, would not increase any of the calculated Airport project incremental risks above the defined significance thresholds (CARB 2005).

References:

CARB. 2005 (October). *Draft: Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach*. Sacramento: California Environmental Protection Agency, Air Resources Board.

FERC. *2005* (October). *Draft Environmental Impact Statement/Environmental Impact Report – Long Beach LNG Import Project*, (FERC/EIS-0168D and SCH No. 2003091130). Federal Energy Regulatory Commission and Port of Long Beach.

Response 5

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 173 JOE MELLO
Dated: January 29, 2006

Response 1

It is unclear as to what areas the commenter is referring. If the comment refers to the Baggage Make-Up; Ticketing & Queuing; Covered Meeters/Greeters; and Baggage Claim areas identified as “Covered Area/Roof Overhang” on Exhibit 2-5 in the Draft EIR, then the answer is “yes”. As detailed on Table 2.5-1, each of those areas is included in the total square footage of the Airport Terminal Building. It should be noted that, as stated on page 2-8 of the Draft EIR, the schematic layout showing the potential footprint of the Airport improvements was developed to provide the environmental team basic parameters for evaluation in the EIR. The overall size of the Airport terminal improvements would not exceed the square footage allocations analyzed in the Draft EIR.

Response 2

The project description in the Draft EIR distinguishes between aircraft parking spaces and gates. The exhibit referenced in the handout at the public meetings depicts the conceptual terminal layout. The 11 aircraft shown are associated with the gates. The Draft EIR (page 2-14) provides the following definition of gates:

> At Long Beach Airport, the term ‘gates’ is used to identify the doors in the holdrooms that are used for passenger boarding. Jetways, which provide direct access from the Airport terminal area to the aircraft, are not possible given that jetways require a second story to allow access and the Proposed Project includes only one story holdrooms.

The Proposed Project provides for 14 aircraft parking spaces. An aircraft parking space is a location where the aircraft would be able to connect to auxiliary power units or park if a turn around flight is not scheduled (such as for aircraft remaining overnight).

Response 3

As discussed in Section 3.3 of the Draft EIR, the Long Beach Terminal Building was designated as a local Heritage Landmark. The City has adopted guidelines to minimize impacts to the historic integrity that may occur as a result of modifications to the Terminal Building. The Proposed Project, with implementation of mitigation measures, is able to reduce impacts to a less-than-significant level while still allowing the terminal area improvements and keeping the historic buildings as the main architectural feature on the approach to the Airport from Donald Douglas Drive.

Response 4

Flight and passenger activity forecasts by time of day for terminal facilities usage were included in development of the square footage requirements for concession areas. Changing airline service (including the reduction in in-flight meal service) was also considered in developing space needs for concessions, as was increased passenger dwell time in holdrooms experienced since 9/11.

Response 5

As stated in section 2.2.3 of the Draft EIR (pages 2-12 and 2-13), the Transportation Security Administration (TSA) has requested additional space at the Airport for its passenger security screening and administrative functions. In addition, TSA has indicated that the current open-air baggage security screening area is not sufficient because of the sensitivity of the equipment being used. TSA has further indicated their requirement for a fully enclosed, air-conditioned building for checked baggage screening. These requests are memorialized in a document entitled, *Transportation Security Administration Space Requirements at Long Beach Airport.*

Response 6

Currently, four commuter flights are being offered at the Airport – one by US Airways (America West) and three by Delta. It is anticipated that full utilization of the remaining 21 commuter slots will occur within the next few years. Therefore, the analysis of the Proposed Project reflects the 41 commercial flights that are currently operating at the Airport, as well as the 25 commuter flights because they are allowed under the Airport Noise Compatibility Ordinance and will likely occur within the foreseeable future.

Response 7

The statement to which the comment refers can be found in section 3.3 of the Draft EIR, Cultural Resources. As indicated in footnote 4 on page 3.3-5, this discussion is taken verbatim from the March 22, 1990, Memorandum regarding the landmark designation. Economic considerations of the project are not a topic pursuant to CEQA. The EIR addresses potential physical impacts.

Response 8

Please see Topical Response 3.1.5 regarding air quality monitoring data used to describe existing conditions in the vicinity of the Airport, as well as measurements of black carbon in the

vicinity of the Airport. As noted in that response, the long-term data collected is presented in the Draft EIR, Table 3.2-4, and the existing air quality in the vicinity of the airport is presented in the Draft EIR, Table 3.2-6. These data were obtained from the North Long Beach monitoring station operated by the South Coast Air Quality Management District (SCAQMD).

Response 9

The noise analysis does include noise generated while the aircraft is on the ground. The noise monitoring system records all of the noise that it 'hears' regardless of the wheels on the ground or not. The noise model used to generate the noise contours includes the takeoff roll, landing roll, and thrust reverser noise.

Response 10

The City's Airport Noise Compatibility Ordinance, LBMC 16.43, Section 16.43.090 A, established and defined the role and responsibility of the General Aviation Noise Committee (GANC). Several years ago the group changed their working name to the Aviation Noise Abatement Committee (ANAC).

Per the Ordinance, this committee is not mandatory and the decision to organize such a committee is at the discretion of the Airport's General Aviation Owner/Operators. Their stated purpose is "to encourage voluntary noise abatement efforts." If the committee is formed, the Airport is required to provide the committee with reports identifying aircraft Owner/Operators who have violated the provisions of the Ordinance.

Section B states – "The GA Noise Committee, if formed, will publicize the Airport's noise abatement program and encourage compliance. In the case of General Aviation Owner/Operators which fail to comply with the City's enacted noise restrictions, the Committee shall be permitted to attempt to achieve voluntary compliance."

Currently, ANAC is currently comprised of the following representatives: Aeroplex Aviation Center, Airserv, US Airways/America West, JetBlue Airways, Flight Safety International, Gulfstream Aerospace Corp, LB Airport Association, LB Control Tower, LB Flying Club, MillionAir, UPS, AirFlite, and Fed Ex. Representatives from the Airport Advisory Commission and the Fifth Council District also attend the meetings.

COMMENTER 174 KRISTY ARDIZZONE
Dated: January 29, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 175 LISA KING
Dated: January 29, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. As indicated on page 2-11 of the Draft EIR,

> There is a commitment to construct the new facilities to meet high standards for energy efficiency and environmental design. The intention is to construct the facilities consistent with the LEED standards. LEED, which stands for Leadership in Energy and Environmental Design is 'based on well-founded scientific standards, LEED standards emphasizes state of the art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. LEED standards recognizes achievements and promotes expertise in green building through a comprehensive system offering project certification, professional accreditation, training and practical resources.' (U.S. Green Building Council, http://www.usgbc.org). This would be implemented through a variety of design features. Precise methods for accomplishing the LEED standards would be determined through project design.

It is recognized that construction of facilities in excess of what is required to serve the demand would not be efficient; however, it is also necessary to provide sufficient facilities to serve the demand. Construction of terminal improvements that would not serve the demand and necessitate other improvements or use of temporary modular buildings, similar to existing conditions, would not be environmentally superior. As indicated in the Draft EIR (page 1-25),

> Based on the *Facility Requirements Analysis, Long Beach Municipal Airport* (HNTB, 2004) study which was prepared during the scoping process, the recommended sizes of the facilities to best meet the needs for the passengers, visitors, and tenants actually exceeded the square footage allocation of even the Proposed Project.

Response 2

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that an extensive effort was made during the scoping process to address the appropriate sizing of the terminal area facilities. As summarized in the Draft EIR (Section 2.4, Project History), the AAC conducted a series of 15 public meetings on the size of the proposed improvements and the scope of the EIR. To support that effort, HNTB prepared a study report that considered a number of factors and made recommendations on the proposed improvements (*Facility Requirements Analysis, Long Beach Municipal Airport* 2004). Factors considered included the number of flights, the number of passengers served, type of flights (i.e., short-haul and long-haul trips), and industry standards. Based on this scoping/outreach process, the AAC made a recommendation to the City Council on the size of the improvements, which consisted of approximately 133,000 square feet of terminal area. The City Council decided to reduce the maximum size of the facilities. The largest alternative evaluated in the Draft EIR was the Proposed Project, which would provide 102,850 square feet. These improvements were sized to serve the minimum 41 commercial flights and 25 commuter flights provided for in the Airport Noise Compatibility Ordinance.

Response 3

The noise analysis does include noise generated while the aircraft is on the ground. The noise monitoring system records all the noise that it 'hears' regardless of whether the wheels are on the ground or not. The noise model used to generate the noise contours includes the takeoff roll, landing roll, and thrust reverser noise. The statement "that the noise calculation disregard[ed] the high level of noise when a jet is taking off and landing, when wheels are on the ground" is not true. The person or agency that gave "the public" this information was misinformed.

Response 4

Please see Topical Response 3.1.5 – Methodology for the Air Quality Impact Analysis and Human Health Risk Assessment – regarding air sampling data near the Airport and measurements collected by others near the airport.

Quantitative analysis of any cumulative impacts of future projects at the Ports of LA and Long Beach and the 710 Freeway expansion are beyond the scope of this Draft EIR. The City has no way of knowing if and when such projects will be undertaken and what the timing and scope of the projects, if approved, might be. Any such projects conducted in the future would be subject to CEQA and would have to account for cumulative impacts, including those associated with airport improvement. Only at such time would sufficient information be available to assess potential cumulative health risks.

One Draft EIS/EIR completed at approximately the same time as the Airport Draft EIR for a liquefied natural gas (LNG) terminal and associated facilities at the Port of Long Beach provided estimates of air concentrations and health risks associated with that facility at the nearest receptors to the Port (FERC 2005). Noting that the pollutant concentrations would decrease by approximately a factor of 10 as they are dispersed toward the Airport, the LNG project impacts will not increase the ambient air concentrations above any ambient air quality standards for those pollutants that were shown to be better than the standards in the Airport Draft EIR (CARB 2005). In addition, the health risks near the Airport associated with the LNG facility operation, after accounting for dispersion from the Port, would not increase any of the calculated Airport project incremental risks above the defined significance thresholds (CARB 2005).

Regarding lead emissions, the emissions inventory does include lead emissions from piston-driven aircraft fueled on leaded aviation gasoline, as noted in the Draft EIR, Appendix C, Section 3.1.1.4. Lead emissions are summarized in Table 3-8 of Appendix C. Concentrations of lead are included in the Draft EIR, Section 3.2, Tables 3.2-13, 3.2-17, and 3.2-20. These lead concentrations do not exceed any significance thresholds or ambient air quality standards.

References:

CARB. 2005 (October). *Draft: Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach*. Sacramento: California Environmental Protection Agency, Air Resources Board.

FERC. 2005 (October). *Draft Environmental Impact Statement/Environmental Impact Report – Long Beach LNG Import Project* (FERC/EIS-0168D and SCH No. 2003091130). Federal Energy Regulatory Commission and Port of Long Beach.

Response 5

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 176 SUZANNE G. BERMAN, JETBLUE AIRWAYS
Dated: January 30, 2006

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 177 CRAIG M. CARTER
Dated: January 30, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 2

The relationship of the Proposed Project to the Optimized Flights has been fully discussed in the Draft EIR, as well in Topical Response 3.1.1. The Proposed Project is focused on provision of facilities needed to provide better passenger service at Long Beach Airport. Section 2.5.1 clearly identifies the 13 areas where improvements would be provided. None of these improvements are required to allow the introduction of additional flights. The evaluation of the Optimized Flights Scenario was provided at the direction of the City Council to fully disclose potential impacts associated with what might be a future possible flight scenario at the Airport within the provisions of the Airport Noise Compatibility Ordinance. The assumptions used in the Mitigated Negative Declaration prepared for the Airport Noise Compatibility Ordinance does not influence the content of this EIR because the Proposed Project is not proposing to amend the Ordinance.

As fully discussed in Section 2.7 of the Draft EIR, in order for the number of flights to be increased and still comply with the Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations. The provision allowing the airlines to obtain the additional flights is provided for in the Airport Noise Compatibility Ordinance and could occur independent of any facility improvements. For the Optimized Flights to be a component of the Proposed Project there would have to be an implementation mechanism associated with the Proposed Project that would allow or facilitate the additional flights. As clearly identified in Section 2.7 of the Draft EIR, the City would not have any discretion on allowing the flights if the conditions outlined in the Airport Noise Compatibility Ordinance were met. Realization of any increase in flights would result from air carrier decisions to optimize flight operations. As such, the potential increase in aircraft operations is independent of the Proposed Project.

It is unclear, what the commenter means by the statement that “there are no real assurances that the Noise Ordinance may not be invalidated, repealed or compromised at a later date, allowing the expanded facilities, additional gates and parking to be constructed without proper evaluation under CEQA.” The implementation of the facilities is not tied to the repeal or modification of the Airport Noise Compatibility Ordinance. If the commenter is referring to the expanded facilities evaluated as part of the Proposed Project, this EIR provides the CEQA documentation for the construction of these facilities, which are intended to be implemented to better serve the passengers within the constraints of the Airport Noise Compatibility Ordinance. If the commenter is referring to other improvements beyond those evaluated in this EIR, the modification or repeal of the Airport Noise Compatibility Ordinance would not alleviate the need to comply with CEQA.

Response 3

There are several points that need to be clarified. First, an explanation of why the projected passenger levels were modified since the 2003 NOP was circulated. The 3.8 MAP shown in the 2003 NOP was taken from the last forecast done at the Airport at that time, which was in August of 2001. The 3.8 MAP determined by the forecaster was the probable number of annual

passengers based on data at that time. Following the 2003 NOP, to develop the facilities that would be studied in the EIR, a consultant was hired to determine a peak-hour forecast and facility sizing to accommodate that peak hour. During the development of the peak hour forecast, the consultant estimated the annual number of passengers to be 4.2 MAP. These projected passenger levels are associated with the 41 minimum air carrier and 25 minimum commuter flights.

The second point needing clarification is the reference to passenger levels exceeding the 4.2 MAP levels. The Draft EIR identified that the Optimized Flights Scenario, not the Proposed Project, would result in the passenger levels exceeding the 4.2 MAP. Therefore, it was with the Optimized Flights Scenario that additional parking would be required. If new facilities were proposed to serve the increase in passengers, additional CEQA analysis would be required to address the impacts associated with any subsequent facility improvements.

Response 4

Please refer to Topical Response 3.1.3, which addresses the issue of alternatives.

Response 5

Please refer to Topical Response 3.1.4 for a discussion of the Environmentally Superior Alternative. It should be noted that an alternative with fewer gates or parking spaces would not eliminate the significant impacts associated with the Proposed Project. Build alternatives would have similar types of impacts because similar facilities would be provided by each of the alternatives. Construction air-quality impacts are the only impacts that were identified as significant and unavoidable. Even with alternatives with less square footage, the nature of the impacts associated with construction would generally be the same because the same amount of equipment would be operating during a peak construction day, although the duration of construction activities would slightly less. In fact, the discussion of the Environmentally Superior Alternative identified that the reduction in gates would potentially result in increase air emissions and associated health risk because of the increased idling times while aircraft wait for access to a gate.

Response 6

Please see Topical Response 3.1.9, Cumulative Impacts.

Response 7

CEQA requires that when adopting a project, the public agency shall consider feasible mitigation measures that would substantially lessen the significant environmental effects of the proposed project. The EIR provided a mitigation program for the City of Long Beach to consider that would largely accomplish that goal. All significant impacts, with the exception of the short-term construction air emissions, have been reduced to a level of less than significant. An extensive mitigation program has been proposed to address and substantially reduce the construction emissions, though the EIR finds that they would not be reduced to a level of less than significant. Given the size of the project, there are no other reasonable construction mitigation measures that would reduce the short-term emissions to a level of less than significant.

Response 8

The commenter does not provide specific examples of mitigation measures that are relied upon to reduce significant project-related impacts that on future study or are voluntary. The EIR does recommend the development of a land use compatibility program within next 24 months where participation would voluntary; however, this is not proposed to reduce a project-related significant impact, rather it is proposed to reduce noise impact associated with existing conditions. The Proposed Project would not alter or in any way exacerbate the conditions associated with noise/land use compatibility. Additionally, there are mitigation measures that are identified that would be associated with the Optimized Flights Scenario. These programs identify the need for monitoring and implementation of improvements when certain passenger levels are met. On this note, implementation of improvements, such as provision of additional onsite parking may require additional CEQA analysis if these thresholds are ever met and improvements are required.

Response 9

The Draft EIR identified that there would be approvals which would require a federal action and therefore, be subject to the National Environmental Policy Act. Specifically, page 2-18 states,

> In addition modification to the Airport Layout Plan that affect airside operations (i.e., activities on the airfield side of airline gates), such as the addition of new airline gates, aircraft parking positions, or modification to general aviation tie down locations, would require approval of the Federal Aviation Administration. Any federal actions would require environmental documentation pursuant to the National Environmental Policy Act (NEPA). The FAA, not the City of Long Beach, would be the lead agency for any documentation pursuant to NEPA. However, the FAA may choose to use material in this EIR or incorporate the document by reference into the NEPA documentation.

Response 10

The commenter is mistaken in identifying the potential land use impacts as being associated with the Proposed Project. The Draft EIR identified that the Optimized Flights Scenario may have the potential to induce airport land uses beyond the air boundaries as they relate to the potential need for vehicular parking beyond what is recommended as part of the Proposed Project. With the Proposed Project all needs would be met on site, thereby alleviating the current need for offsite parking.

Response 11

As a point of clarification, the Proposed Project did not have transportation impacts. In fact the project has potential beneficial affects. The other impacts that are identified in the EIR were predominately short-term impacts that would result from construction activities (aesthetics, air quality, noise, and hazardous materials). The historic resource impacts, as well as all the short-term impacts, with the exception of air quality, would be mitigated to a level of less than significant. These findings were considered when evaluating the consistency with local plans. As far as the consistency with regional planning documents, the project would not change the flight assumptions for Long Beach Airport used in the planning documents. The Regional Transportation Plan reflects the 41 commercial flights and 25 commuter flights. There is a variance in the calculation of the number of passengers projected passenger levels are associated with the 41 minimum air carrier and 25 minimum commuter flights. The difference between the 3.8 MAP and the 4.2 MAP reflects an updated calculation based on aircraft used

and load factors. Mike Armstrong, with SCAG's Planning and Policy Department, identified this as a technical refinement, rather than inconsistency. As indicated in the their response to the NOP and the DEIR, SCAG did not identify the Proposed Project as a regionally significant project (see Commenter 5).

Response 12

Only minor revisions and clarifications are required as a result of the public review and responses to comments process. These are provided in Section 4 of this document. The nature of these comments (addition/modification of several mitigation measures and minor word additions to the project history) would not constitute substantial changes, necessitating the recirculation of the Draft EIR.

Response 13

Please see Responses 2 and 3 to Commenter 6 and Response 1 to Commenter 7 regarding the incorporation of additional mitigation measures into the Final EIR. As noted in those responses, a number of additional mitigation measures will be incorporated into the Final EIR, which will lower the emissions from both construction and Optimized Flights Scenarios. However, a quantification of the benefits have not been conducted for these measures, and it is assumed that the air quality impacts of PM_{10}, CO, and NO_x will remain significant after application of these measures.

Response 14

In conformance with CEQA, the City of Long Beach prepared this DEIR to address the potential environmental impacts associated with improvements to the Long Beach Airport. Cumulative air quality and human health risk impacts associated with the improvements of Long Beach Airport are described in Section 5.3.2 of the DEIR.

Quantitative analysis of any cumulative impacts of future projects at the Ports of Los Angeles and Long Beach and 710 Freeway expansion are beyond the scope of this DEIR. The City has no way of knowing if and when such projects will be undertaken and what the timing and scope of the projects, if approved, might be. Any such projects conducted in the future would be subject to CEQA and would have to account for cumulative impacts, including those associated with airport improvement. Only at such time would sufficient information be available to assess potential cumulative health risks.

One Draft EIS/EIR completed approximately the same time as the Airport Draft EIR for a liquefied natural gas (LNG) terminal and associated facilities at the Port of Long Beach (FERC 2005) provided estimates of air concentrations and health risks associated with that facility at the nearest receptors to the Port. Noting that the pollutant concentrations would decrease by approximately a factor of ten as they are dispersed toward the Airport (CARB 2005), the LNG project impacts will not increase the ambient air concentrations above any ambient air quality standards for those pollutants that were shown to be better than the standards in the Airport Draft EIR. In addition, the health risks near the Airport associated with the LNG facility operation, after accounting for dispersion from the Port (CARB 2005), would not increase any of the calculated Airport project incremental risks above the defined significance thresholds.

For a regional discussion of air quality and human health risks, the commenter should refer to the urban air toxics monitoring and evaluation study for the South Coast Air Basin called Multiple Air Toxics Exposure Study II (MATES-II) completed in November 1999. MATES-II (SCAQMD 2000) provides a general evaluation of cancer risks associated with TACs from all

sources within the South Coast Air Basin. Using the observed MATES-II data results from the North Long Beach air monitoring station, estimated ambient risks for Long Beach were about 1,130 per million. Estimates of more recent monitored air toxic data from the North Long Beach monitoring station are presented in the DEIR, Section 3.2, Table 3.2-8. Noting that ambient toxic air pollutant concentrations have decreased since the time of the MATES-II study, the more recent data suggests that current health risks in the area are approximately 600 to 700 in a million. Long Beach Airport operations would have a relatively small impact (i.e., maximum of 2.6 per million for the Proposed Project alternative in 2011) compared to 600 cancer cases in a million (or less than 0.5 percent) on cumulative human cancer risks associated with living in the City of Long Beach. Such an impact would probably not be measurable against urban background conditions (i.e., an additional 600 cancer cases in a million) in Long Beach.

The SCAQMD is currently in the process of updating the MATES-II study with a MATES-III study. Monitoring for this study is expected to conclude in early March 2006. The purpose of MATES-III is to update toxic air pollution levels and toxic emission inventories in the South Coast Air Basin, and then input those data into a computer model of air dispersion to determine cancer risks and non-cancer health hazards from air toxics. Potential toxic “hot spots” in communities will also be evaluated in this new study.

For a more localized discussion of air quality and human health risks, the commenter should refer to the *Baseline Air Quality and Noise Human Health Risk Assessment* completed in February 2005. This study was commissioned by the City of Long Beach Department of Health and Human Services in order to assess whether there is the potential for adverse health effects from environmental pollution on the population of Long Beach.

The California Air Resources Board also recently completed a separate study evaluating air quality in and around the Ports of Los Angeles and Long Beach entitled *Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach – October 2005.* The purpose of this study was to evaluate the relative contributions of port-related diesel particulate matter emission sources at the ports and the resultant potential cancer risk to people living in communities near the ports. The risk estimates from this report for the area near the Airport represent the ports’ contribution to the total risks estimated from the MATES-II data for North Long Beach. This information then could be used to identify mitigation measures to reduce PM emissions associated with port activities and establish a tool by which the effectiveness of these mitigation measures could be evaluated.

Response 15

A detailed analysis of the project components did identify significant impacts to character-defining features of the Terminal Building beginning on page 3.3-9. This section is followed on 3.3-10 with a discussion of the Proposed Project's compliance with the Secretary of the Interior's Standards for the Rehabilitation of Historic Properties. Three design concepts that were identified as causing substantial adverse change to the significance of the historical resource could be removed from the final project design, which would mean the associated mitigation measures would not be necessary. The removal of historic material would still need to be mitigated.

Specifically, CEQA Guidelines state that where maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, or reconstruction of the historical resource will be conducted in a manner consistent with the Secretary of the Interior's Standards for the Rehabilitation of Historic Buildings, the project's impact shall generally be considered mitigated below a level of significance and thus not significant.

The EIR states on page 3.3-16 that the six proposed Mitigation Measures should be adequate to bring the impacts of the Proposed Project to a less-than-significant level. The applicability of these measures would have to be determined through the design review process at the Cultural Heritage Commission, which has the authority to issue a Certificate of Appropriateness for the Proposed Project. The Commission could recommend additional mitigation measures during the review process as well.

Response 16

The commenter states that previous documents have indicated that the Proposed Project site is contaminated, but does not provide any references to those documents. Therefore, a focused response cannot be provided. However, it should be noted that Section 3.4 of the Draft EIR summarizes uses at the Airport which may have resulted in past, existing, or threatened release of hazardous substances or petroleum products into structures, soil, and/or groundwater beneath the property. Section 3.4 also assesses hazardous waste or materials use impacts which could result from implementation of the Proposed Project and describes mitigation measures for avoiding significant impacts, as necessary.

As discussed on page 3.4-1 of the Draft EIR, known discharges, investigations, and remediation activities at the Airport area were determined through a search of available environmental records, which was conducted by Environmental Data Resources, Inc. (EDR) in June 2005. This search included a wide range of federal, state, and local records. As stated on page 3.4-5 of the Draft EIR, the EDR report identified that a few violations in storing or handling hazardous wastes have occurred on Airport property since 1981. The report also indicated that several incidences of spills had been reported. The conclusion reached upon review of the report was that all violations and reported incidents have been remediated and all cases have been closed. At the time the Draft EIR was prepared, there were no outstanding violations or reported incidents at the Airport (refer to page 3.4-5).

In addition to summarizing the findings of the EDR report, Section 3.4 of the Draft EIR also details existing and historic uses of hazards and hazardous materials at the Airport; summarizes the Airport's hazardous material use and containment practices; and documents Airport tenants' (i.e., fixed base operators, Long Beach Fire Department, and Los Angeles Sheriff's Aero Bureau) hazardous material use and containment practices. Specific details are provided on pages 3.4-4, 3.4-5, and 3.4-7 of the Draft EIR. As stated on page 3.4-7, Chapter 5 of the *Long Beach Airport Certification Manual* provides documented procedures for handling hazardous materials at the Airport. These procedures address fuel handling, inspections, fueler training, corrective action, and hazardous material clean-up procedures. This Certification Manual received FAA approval on September 9, 1999, and remains in effect today. In addition, Section 5.2 of the *Long Beach Airport Rules and Regulations* sets forth specific requirements for the handling of hazardous materials on Airport property.

Notwithstanding the above, Section 3.4.2 of the Draft EIR indicates that, during construction of the Proposed Project, there is a potential for asbestos, lead-based paint, aerially-deposited lead, or DDT to be introduced into the environment. It also indicates that hazardous materials could be transported onto the Airport along an established haul route that is located within approximately one-quarter mile of the Alpert Jewish Community Center. All of the above are appropriately identified as potential project-related impacts. Consequently, Section 3.4.3 of the Draft EIR provides a mitigation program for reducing potential project-related impacts to a level considered less than significant.

Response 17

The commenter suggests that the Draft EIR should address aviation safety and the potential incidents resulting from "the increased aircraft flights". The Proposed Project is limited to facilities improvements; however, the Draft EIR also evaluated the potential impacts associated with 11 additional commercial flights and concluded that no significant hazards and hazardous materials impacts would occur. It should be noted that neither the Proposed Project nor the Optimized Flights Scenario would change operational procedures or the types of aircraft that are served at the Airport. Furthermore, neither would result in conditions that would crowd the runways at or airspace around the Airport and, thereby, increase the likelihood of an incident. Consequently, no impacts with respect to safety hazards would be expected.

Response 18

The land use compatibility program, or sound insulation program, has not been completed and is not a necessary part of the EIR. The land use compatibility program was proposed to address existing and future noise impacts that may occur with or without the project. The project does not cause these impacts; therefore, there are no required noise mitigation measures for the project.

Response 19

The Draft EIR did find a significant impact associated with the project and did identify existing noise impacts and impacts associated with the Optimized Flights Scenario which may occur with or without the project. Mitigation measures are recommended for this impact. Because this mitigation measure is the result of activity that is not a part of the project, the mitigation measure program may be developed at a subsequent time. Parcel O is singled out because of the potential that night construction on this site may exceed noise ordinance limits.

Response 20

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. Please see Topical Response 3.1.6 pertaining to the noise violation review process for a complete response to this comment.

Response 21

The City Council could pursue a parcel purchase program. However, such a program may prove to be disruptive to existing neighborhoods. For this reason the Draft EIR recommends sound insulation and not home purchase.

Response 22

The commenter is mistaken in the belief that the traffic impacts are project related. The traffic impact identified in the Draft EIR was associated with the Existing Plus Optimized Flights Scenario. On page 2-17 of the Draft EIR, it is clearly identified that the Optimized Flights is not a component of the Proposed Project. The proposed facility improvements are not required for the Optimized Flights to be implemented nor would the improvements facilitate or otherwise provide for the introduction of the Optimized Flights Scenario. Repeatedly throughout the document, the Draft EIR was clear that in order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late-night operations. These optimal flight conditions have never been achieved at the Airport, but are

associated completely with the aircraft operations (not with the physical facilities) at the Airport. The project is not proposing any modifications to the Airport Noise Compatibility Ordinance or other actions that would directly or indirectly affect the number of aircraft operations at the Airport, which in turn would result in greater traffic impacts than what was addressed for the Proposed Project in the Draft EIR. The analysis of the Optimized Flights Scenario was included in the EIR at the direction of the City Council and in response to members of the public who wanted an understanding of the maximum reasonably expected number of flights that could occur at the Airport under the current Airport Noise Compatibility Ordinance. This flight level would be allowed with any scenario, including the No Project Alternative, provided the airlines do not exceed their allocated portion of the CNEL noise budget based on the 1989–1990 baseline year.

Response 23

The future 2020 conditions portion of the traffic study did include both regional growth and cumulative projects (known related development projects) in the area, including the Douglas Park Project.

Response 24

The traffic analysis of future 2020 conditions acknowledges that off-site parking could occur, and the impacts of off-site parking and associated shuttles were analyzed as part of the project.

Again, the commenter is mistaken regarding the parking impacts. This impact is associated with the Optimized Flights Scenario. The Draft EIR identified if an additional 11 commercial carrier flights were added, then the proposed parking structure would not be sufficient to accommodate the projected passenger levels. Please see Response 22 above, and Topical Response 3.1.1 pertaining to the relationship of Optimized Flights to the Proposed Project.

Response 25

The traffic study analyzed the Optimized Flights Scenario, which has an annual passenger level of 5.27 MAP. The minimum number of flights allowed under the Airport Noise Compatibility Ordinance is 4.2 MAP. Please see Topical Response 3.1.1 pertaining the relationship of the Proposed Project to the Optimized Flights Scenarios.

Response 26

The commenter states his opinion that additional electric power would be needed to support the proposed improvements at the Airport. Depending on the size of the ultimate facility, upgrades to the current electrical systems may be required. Airport staff have indicated that, if needed, more power could be obtained from Southern California Edison.

COMMENTER 178 GARY W. FRAHM
Dated: January 30, 2006

Response 1

The airline budget was exceeded in the 2002–2003 Noise Budget Year. The airline budget was not exceeded for Noise Year 2003-2004, but it was determined that if additional flights were added that the airline budget would be exceeded the following Noise Year, so no new flights were added.

Response 2

For Noise Year 2002-2003, the airline budget was exceeded on the north end of the airport. The allocated budget for this area (specifically, monitor # 9) is 70.7, and the actual budget used was 80.7.

Response 3

The noise budget calculation method is described in Appendix F, pages F-29 and F-30.

Response 4

The noise budget calculations were computed using Microsoft Excel (copyright Microsoft), Version 11.2 (2004) for Mac.

Response 5

When the 1989–1990 baseline noise budget was established, the noise measurements were computed using the airport permanent noise monitoring system. That system was initially installed in 1982.

Response 6

The 1989–1990 baseline budget was developed by Mr. Dwight Bishop of Bolt Beranek and Newman, Inc.

Response 7

There were only two monitoring sites included in the 1989–1990 baseline budget: RMT 9 and 10.

Response 8

No. Each year has a unique noise measure and any exceedances or shortfalls do not carry over to the next year. The noise budget is there to police the current noise level; therefore, any shortfalls or exceedances which carry over would make the calculation invalid for its purpose.

Response 9

The exact wording of the development and use standard for the Long Beach Airport Terminal Planned Development Plan Ordinance can be found in Ordinance C-7496, entitled “An ordinance of the City Council of the City of Long Beach amending and re-adopting the development and use standards for the Long Beach Airport terminal planned development plan (PD-12) and repealing Ordinance Nos. C-5879 and C-6779”, a copy of which ordinance can be obtained from the Long Beach City Clerk’s office. The Ordinance divides the airport area into three subareas. Subarea 1, which includes the terminal area, provides for a variety of uses including the airport terminal; terminal and passenger-related services and support facilities; car rental; gift shops; restaurants/food; travel agencies and automated bank tellers; airport and aviation-related commercial offices, including corporate offices for airport-dependent or airport associated firms; research, assembly, manufacture, testing, and repair of aviation-related components; devices, equipment, and systems. In addition, the sub-area permits aviation services and aviation support services, which include tie-down facilities for based or transient aircraft; sale, rental, and lease of new and used aircraft; sale of aircraft parts, accessories, and

related equipment; storage, sale and dispensing of petroleum products; sale of pilot supplies and accessories; and a variety of other aviation-related uses. In partial response to this comment, the commenter was provided with a complete copy of the above referenced ordinance via mail from the City Attorney's office on April 5, 2006.

Response 10

Cities have responsibility for formulating plans for the use and development of land within their spheres of influence, including land in the vicinity of airports. Under the *Government Code*, each city is required to prepare a "general plan" for the physical development of the city. Cities, including Long Beach, are also required to prepare additional plans or "elements" of the General Plan (including a land use plan) for the systematic implementation of its General Plan for all areas it covers. Long Beach has developed such plans for the City, including the land uses surrounding the Long Beach Airport. Such plans, regulations, and zoning ordinances include land use, development density, and development intensity standards for the potential uses located in and adjacent to the Long Beach Airport. These provide for the orderly development of both the Airport and the land surrounding it. Up until this point in time, the City has not been required to implement an Airport Land Use Compatibility Program in addition to those land use controls contained in its existing General Plan and the policies and regulations that implement the General Plan. However, if a terminal project is approved, Mitigation Measure MM 3.6-2 requires that within 24 months of the certification of the EIR, the Airport Manager shall develop a land use compatibility program addressing existing and future aviation noise levels. The program is required to be an ongoing program that will provide noise attenuation and be available to all residential units within the 65 CNEL contour and schools within the 60 CNEL contour.

Response 11

The land use compatibility program is voluntary because the individuals close to the airport may choose not to have his or her home sound insulated.

Response 12

The noise attenuation is only available to residential units with the 65 CNEL contour because the State of California defines an airport noise impact boundary at the 65 CNEL contour. Because the State has established this threshold, the FAA will assist with funding sound insulation only for those within the 65 CNEL contour.

Response 13

The program has not completed a design phase. However, programs of this type usually involve the replacement of existing windows and doors with sound insulating windows and doors, and the installation of attic vent baffles and/or other vent baffles as determined are needed for the program.

Response 14

The noise easement has not been developed at this point in time so any comments made on the language at this point would be speculative.

Response 15

It has been decided that the sound insulation program would be funded primarily by FAA grants and airport revenue.

Response 16

Because the program has not yet been developed, it would be speculative to comment on the amount of money available to residents for noise attenuation. For similar projects, the work is contracted for and paid by the City and not the resident.

Response 17

To date, no program of priorities has been established. The mitigation program as recommended in the Draft EIR may require a priority program, but may be accomplished in one phase. This will not be determined until the plan is developed.

Response 18

The installation agreement has not been developed at this time so it would be speculative to comment on the language that would be used in the installation agreement.

Response 19

The Airport Bureau, under the City's Public Works Director, has full access to and support from the City's Engineering Bureau, Project Development, and Construction and Inspection Divisions. Further support and expertise is available from the City's Planning and Building Department as well as the Community Development Department. Ultimately, the assignment of responsibility would likely occur when a Land Use Compatibility Plan, with implementation measures, is approved by the City Council.

Response 20

The voluntary noise attenuation program is addressed in detail on page 3.6-26 of the Draft EIR in Mitigation Measure 3.6-2.

Response 21

The noise level difference between a fully loaded commercial plane and a fifty-percent loaded commercial plane depends on the aircraft type. In general, for narrow body twin engine jet aircraft such as the aircraft operated by JetBlue, Alaska, and American Airlines, the noise level increases by approximately 2 dBA for each 10,000 pounds of additional weight for a departing aircraft. On approach, weight is not a significant factor on noise levels.

Response 22

Each noise complaint is investigated individually, entered into the Airport's noise monitoring system (ANOMS), and then reported monthly to the AAC. There are no plans to install any additional noise monitoring sites anywhere.

Response 23

Please see Response 22 for a complete response to this question.

Response 24

Bixby Hill is, actually, included in the noise monitoring system and is monitored by RMT 3. This station is located at the entrance to the gated community. That monitor presents data applicable to Bixby Hill.

Response 25

The change in noise level associated with the change in weight is an effect that is measured by the noise monitoring system. Data from this system is used to cross check the noise model which is used to develop the noise contours. Any change in noise is reflected in the noise contours in the Draft EIR.

Response 26

The monitors do not record atmospheric conditions nor do they need to. The sound that arrives at a microphone already includes the atmospheric effects that are present at any given time. Therefore, the noise measurements that are recorded already account for the changes due to frequency of sound, humidity, and temperature in the air.

Response 27

Please see Response 26 for a complete response to this question.

Response 28

The monitors in place were chosen because of their ability to measure sounds that are both over and under the audible frequencies heard.

Response 29

The effects described in Exhibit 1-2 relative to the effect of water are applicable when sound propagates over long distances over water such as to a small island or peninsula that is surrounded by water. The Bixby Hill area, although surrounded by water or concrete, is not subject to this effect as there is not enough water or concrete to skew the measurements at the rate described.

Response 30

The data shown in Exhibit 1-4 were taken from the literature on the effects of noise (Environmental Protection Agency, “Information on Levels on Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety,” U.S. Environmental Protection Agency, Office of Noise Abatement and Control, March 1974) and are commonly used in environmental documents. However, these data date back to the early 1970s when much noisier aircraft were in the fleet. These aircraft included the B707, DC8 and other very noisy aircraft. Newer aircraft in use at the Airport such as the A320, B737, MD80 and others are significantly quieter on approach. . Because of this, the measured noise levels at Long Beach Airport are significantly lower than those indicated in Exhibit 1-4.

Response 31

The City has not done independent research on this subject. However, the noise studies that were cited relate information from airports that do not include a Noise Ordinance and are,

therefore, meant to represent a "worst-case" scenario. It can therefore be assumed that the sleep disturbance level from Airport Noise at Long Beach Airport would be lower than the sleep disturbance level at other Airports.

As discussed in Topical Response 3.1.6, the Airport Noise Compatibility Ordinance (the Ordinance) sets certain maximum Single Event Noise Exposure Levels (SENEL) that cannot be exceeded at specified times during the day and night. For example, the maximum SENEL limit on Runway 30 between the hours of 7:00 a.m. to 10:00 p.m. is 102.5 decibels (dB) for departures and 101.5 dB for arrivals. Between the hours of 10:00 p.m. and 11:00 p.m. the maximum noise level for departures and arrivals on Runway 30 is 90 dB, and between the hours of 11:00 p.m. and 7:00 a.m. the noise limit is 79 dB for both departures and arrivals.

Response 32

No. The City has not conducted a formal survey of its residents or business owners regarding "annoyance levels caused by Long Beach Airport noise". However, the City and Airport Bureau have established several mechanisms by which interested citizens and business owners can let their respective concerns be known to the City and Airport staff.

Response 33

The City of Long Beach has specifically adopted Zoning and Land Use Regulations and obtained funding, pursuant to the Airport and Airway Improvement Act of 1982 (and successor legislation).

Response 34

The Long Beach Airport Noise Compatibility Ordinance serves as the Airport's noise abatement plan. It should also be noted that the measures in effect in the Long Beach Airport Noise Compatibility Ordinance are much stricter than the measures in other noise abatement plans for similar airports.

Response 35

The commenter is confusing the DNL or CNEL limits of Exhibit 1-9 with instantaneous noise levels measured at Bixby Hill. The noise limits in Exhibit 1-9 are measures of noise exposure over a 24-hour period. The noise levels the commenter cites are instantaneous measures of sound pressure levels. Please see Appendix F, Section 1.4, Sound Rating Scales, of the Draft EIR for definitions and explanations of these concepts.

Response 36

Yes, the Bixby Hill sound levels are compatible with Part 150. Exhibits 3.6-9 and 3.6-14 show the Bixby Hill area to be outside the 65 CNEL contours.

Response 37

The 74-85 dB sound levels do not require additional restrictions. These levels meet FAA Part 150 guidelines, the California Airport Noise Regulations, and the City of Long Beach Airport Compatibility Ordinance requirements.

Response 38

The 74-85 dB sound levels are acceptable to Caltrans. The Division of Aeronautics of Caltrans enforces the California Airport Noise Regulations which sets 65 CNEL as the residential noise limit. Bixby Hill is well outside the Airport's 65 CNEL contour.

Response 39

The State Legislature created the California Noise Insulation Standards and the exemption when it adopted these Standards. This exemption was sought by builders of single-family homes.

Response 40

There is no specific requirement in state law requiring that a City's "Noise Element" be updated at any particular time interval. The City has amended the required elements of its general plan when the element becomes obsolete or is no longer adequate for its intended purpose. At this point, the implementing regulations (contained primarily in Title 8, Chapter 8.80 and Chapter 16.43 of the Municipal Code) have proven adequate in addressing and regulating City noise issues.

Response 41

The City's "noise standards" are contained in Title 8, Chapter 8.80 of the *Long Beach Municipal Code*.

Response 42

No limits have been adjusted since the implementation of the Noise Compatibility Ordinance in 1995. For the limits to be adjusted, the user group has to be over their allowable budget limit, and overall aircraft noise would also have to exceed the City's goal of zero property located within 65 dB CNEL contour or "footprint". In determining compliance with the City's goal, and with the noise budgets established, a tolerance of one dB CNEL must be applied. No user group has exceeded these limits since the ordinance went into effect. The user group budgets were established by the actual monitored levels by each of the user groups during the baseline year (November 1, 1989 through October 31, 1990).

Response 43

Noise levels have been stored in the system since January 1998. Some prior years are archived on data tapes, but the only noise levels that are officially kept on record are those since January 1998.

Response 44

The noise limits set in the ordinance were selected and established when the ordinance was first written. These limits reflected the noise levels that would permit the aircraft types that the City felt were appropriate to operate at the airport.

Response 45

Table 4, below, lists the manufacturer, serial numbers, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Lochard

monitoring sites (see Response 46 for monitor numbers). There, it is noted that Monitoring Site 1 was installed in 1982.

Response 46

Sites 1, 2, 5, 6, 9, and 10 were manufactured and are monitored by Lochard.

Response 47

Table 4 lists the manufacturer, serial numbers, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Lochard monitoring sites (see Response 46 for monitor numbers).

Response 48

Once a year the enforcement and budget monitors at the Lochard sites (see Response 46) are calibrated and certified. Please see Table 4 for the most recent calibration dates. Further, four times a day the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Each time, a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 49

The Lochard EMU monitors (please see Response 46 for monitor numbers) have the ability to monitor temperature, barometric pressure, wind speed, and humidity, but they do not currently contain the equipment needed to measure these values.

Response 50

The location of Monitor 1 was selected by the Noise Evaluation Task Force in 1982. It is also used for enforcement of the noise limits.

Response 51

Table 4 lists the manufacturer, serial numbers, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Lochard sites (see Response 46 for monitor numbers). There, it is noted that Monitoring Site 2 was installed in 1982.

Response 52

Sites 1, 2, 5, 6, 9, and 10 were manufactured and are monitored by Lochard.

Response 53

Table 4 lists the manufacturer, serial numbers, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Lochard sites (see Response 46 for monitor numbers).

TABLE 4
DATA ON EMU MONITORS

Table 2. EMU Monitors

Monitoring Site # 1	**Manufacturer**	**Modem**	**Components**	**Microphone**	**Battery Charger**	**Installation Date**	**Calibration Date**
Type/Model	Lochard / EMU 2100	Westtel 327W	SLM - SN 69	41DM -2		EMU 5/05 originally 1982	3/31/05
Serial Number	SN 750	05B406888314	CCM - SN 69	SN 52037	SN 10020370		*LD 6/23/04
			CA Serial - 3304096				*LD 7/08/03
Monitoring Site # 2	**Manufacturer**	**Modem**	**Components**	**Microphone**	**Battery Charger**	**Installation Date**	**Calibration Dates**
Type/Model	Lochard / EMU 2100	Westtel 327W	SLM - SN 67	41DM -2		EMU 5/05 originally 1982	3/31/05
Serial Number	SN 748	05B405420843	CCM - SN 67	SN 52035	SN 10020394		*LD 6/23/04
			CA Serial - 3304099				*LD 7/08/03
Monitoring Site # 5	**Manufacturer**	**Modem**	**Components**	**Microphone**	**Battery Charger**	**Installation Date**	**Calibration Date**
Type/Model	Lochard / EMU 2100	Westtel 327W	SLM - SN 70	41DM -2		EMU 5/05 originally 1982	3/31/05
Serial Number	SN 751	52404709227	CCM - SN 70	SN 52103	SN 10020386		*LD 6/23/04
			CA Serial - 3304088				*LD 7/08/03
Monitoring Site # 6	**Manufacturer**	**Modem**	**Components**	**Microphone**	**Battery Charger**	**Installation Date**	**Calibration Date**
Type/Model	Lochard / EMU 2100	Westtel 327W	SLM - SN 65	41DM -2		EMU 5/05 originally 1982	3/31/05
Serial Number	SN 746	05Z402652703	CCM - SN 65	SN 52047	SN 10020349		*LD 6/23/04
			CA Serial - 3304088				*LD 7/08/03
Monitoring Site # 9	**Manufacturer**	**Modem**	**Components**	**Microphone**	**Battery Charger**	**Installation Date**	**Calibration Date**
Type/Model	Lochard / EMU 2100	Westtel 327W	SLM - SN 68	41DM -2		EMU 5/05 originally 1986	3/31/05
Serial Number	SN 749	05Z404708762	CCM - SN 68	SN 52042	SN 10020286		*LD 6/23/04
			CA Serial - 2104034				*LD 7/09/03
Monitoring Site # 10	**Manufacturer**	**Modem**	**Components**	**Microphone**	**Battery Charger**	**Installation Date**	**Calibration Date**
Type/Model	Lochard / EMU 2100	Westtel 327W	SLM - SN 66	41DM -2		EMU 5/05 originally 1986	3/31/05
Serial Number	SN 747	085Z405763451	CCM - SN 66	SN 52047	SN 10020216		*LD 6/23/04
			CA Serial - 3304088				*LD 7/08/03

* Previiously Larson Davis 870/2100

Response 54

Once a year the enforcement and budget monitors at the Lochard sites (see Response 46) are calibrated and certified. Please see Table 4 for the most recent calibration dates. Further, four times a day the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Each time a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 55

The Lochard EMU monitors (please see Response 46 for monitor numbers) have the ability to monitor temperature, barometric pressure, wind speed, and humidity, but they do not currently contain the equipment needed to measure these values.

Response 56

The location of Monitor Site 2 was selected by the Noise Evaluation Task Force in 1982. It is also used for enforcement of the noise limits.

Response 57

Table 5, below, lists the manufacturer, serial numbers, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There it is listed that Monitoring Site 3 was installed in 1982.

Response 58

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 59

Table 5 lists the manufacturer, serial numbers, modem type, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 60

Every three years monitor sites 3, 7, 11, 12, 15, and 16 are calibrated and certified. Please see Table 5 for exact dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock, then a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

TABLE 5
LARSON DAVIS MONITORS

Table 3. Larson Davis Monitors

Monitoring Site # 3	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	BVW12225	1982	6/04
Serial Number	870A0390	203	233	283	N/A		7/02
							8/01

Monitoring Site # 4	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	BVW12225	1982	7/03
Serial Number	870A0374	202	225	292	024203A		7/02
							8/01

Monitoring Site # 7	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	BVW12225	1982	6/04
Serial Number	870A0A0385	194	222	258	N/A		7/02
							8/01

Monitoring Site # 8	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	7VA-12275	1982	7/03
Serial Number	870A0A0367	200	223	274	N/A		7/02
							8/01

Monitoring Site # 11	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	BVW12225	1988	6/04
Serial Number	870A0A0383	121	229	275	02173A		7/02
							8/01

Monitoring Site # 12	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	7VA-12275	1988	6/04
Serial Number	870A0A0377	198	220	299	02173A		7/02
							8/01

Monitoring Site # 13	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	7VA-12275	1988	7/03
Serial Number	870A0A0388	199	219	290	N/A		7/02
							8/01

Monitoring Site # 14	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	7VA-12275	1988	7/03
Serial Number	870A0A0380	189	230	285	N/A		7/02
							8/01

Monitoring Site # 15	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	7VA-12275	1988	6/04
Serial Number	870A0A0368	133	234	337	N/A		7/02
							8/01

Monitoring Site # 16	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	BVW12225	1988	6/04
Serial Number	870A0A0366	144	221	287	02173A		7/02
							8/01

Monitoring Site # 17	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	7VA-12275	1992	7/03
Serial Number	870A0A0386	191	218	300	N/A		7/02
							8/01

Monitoring Site # 18	Manufacturer	Modem	Components	Microphone	Battery Charger	Installation Date	Calibration Dates
Type/Model	Larson Davis 870/2100	LD 2400	Circuit Board/2175	2100	7VA-12275	1992	7/03
Serial Number	870A0A0382	190	217	291	N/A		7/02
							8/01

Response 61

The Larson Davis monitors located at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, or humidity. However, these monitors are scheduled to be replaced with Lochard EMU's over the next 18 months.

Response 62

The location of Monitor 3 was selected by the Noise Evaluation Task Force in 1982. Site 3 is used for providing noise information for adjacent residential areas and California State University, Long Beach (CSULB).

Response 63

Table 5 lists the manufacturer, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There, it is listed that Monitoring Site 4 was installed in 1982.

Response 64

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 65

Table 5 lists the manufacturer, serial numbers, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 66

Every two years monitor sites 4, 8, 13, 14, 17, and 18 are calibrated and certified. Please see Table 5 for exact dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock, then a report is generated and automatically prints out the status for all of the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 67

The Larson Davis monitors located at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, and humidity. However, these monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 68

The location of Monitor 4 was selected by the Noise Evaluation Task Force in 1982. This monitor was originally an enforcement monitor, was replaced by monitor 10 in 1986, and moved to its current location to assist with identifying noise events in conjunction with sites 3, 10, and 17 on Runway 12/30.

Response 69

Table 4 lists the manufacturer, serial numbers, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 46 for monitor numbers). There, it is noted that Monitoring Site 5 was installed in 1982.

Response 70

Sites 1, 2, 5, 6, 9, and 10 were manufactured and are monitored by Lochard.

Response 71

Table 4 lists the manufacturer, serial numbers, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 46 for monitor numbers).

Response 72

Once a year the enforcement and budget monitors at sites 1, 2, 5, 6, 9, and 10 are calibrated and certified. Please see Table 4 for the most recent calibration dates. Further, four times a day the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Each time a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 73

The Lochard EMU monitors (please see Response 46 for monitor numbers) have the ability to monitor temperature, barometric pressure, wind speed, and humidity, but they do not currently contain the equipment needed to measure these values.

Response 74

The location of Monitor 5 was selected by the Noise Evaluation Task Force in 1982. It is also used for the enforcement of the noise limits and identification of noise events for Runway 7R/25L.

Response 75

Table 4 lists the manufacturer, serial numbers, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 46 for monitor numbers). There, it is noted that Monitoring Site 6 was installed in 1982.

Response 76

Sites 1, 2, 5, 6, 9, and 10 were manufactured and are monitored by Lochard.

Response 77

Table 4 lists the manufacturer, serial numbers, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 46 for monitor numbers).

Response 78

Once a year the enforcement and budget monitors at sites 1, 2, 5, 6, 9, and 10 are calibrated and certified. Please see Table 4 for the most recent calibration dates. Further, four times a day the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Each time a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 79

The Lochard EMU monitors (please see Response 46 for monitor numbers) have the ability to monitor temperature, barometric pressure, wind speed, and humidity, but they do not currently contain the equipment needed to measure these values.

Response 80

The location of Monitor 6 was selected by the Noise Evaluation Task Force in 1982. It is also used for the enforcement of the noise limits and noise event identification for Runway 7L/25R.

Response 81

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There, it is listed that Monitoring site 7 was installed in 1982.

Response 82

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 83

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 84

Every three years monitor sites 3, 7, 11, 12, 15, and 16 are calibrated and certified. Please see Table 5 for exact dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Then a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many

calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 85

The Larson Davis monitors located at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, and humidity. These monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 86

The location of Monitor 7 was selected by the Noise Evaluation Task Force in 1982. It is useful for identifying noise events in conjunction with monitors 7, 8 and 9.

Response 87

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There, it is listed that Monitoring site 8 was installed in 1982, and was moved in 1986 to its current location at 1400 Tehachapi Dr.

Response 88

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 89

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 90

Every two years monitor sites 4, 8, 13, 14, 17, and 18 are calibrated and certified. Please see Table 5 for exact dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock, then a report is generated and automatically prints out the status for all of the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 91

The Larson Davis monitors located at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, and humidity. These monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 92

The location of Monitor 8 was selected by the Noise Evaluation Task Force in 1982. It was also used for enforcement of the noise limits.

Response 93

Table 4 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 46 for monitor numbers). There, it is noted that Monitoring Site 9 was installed in 1986 and was formerly Monitoring Site 8.

Response 94

Sites 1, 2, 5, 6, 9, and 10 were manufactured and are monitored by Lochard.

Response 95

Table 4 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 46 for monitor numbers).

Response 96

Once a year the enforcement and budget monitors at sites 1, 2, 5, 6, 9, and 10 are calibrated and certified. Please see Table 4 for the most recent calibration dates. Further, four times a day the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Each time a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 97

The Lochard EMU monitors (please see Response 46 for monitor numbers) have the ability to monitor temperature, barometric pressure, wind speed, and humidity, but they do not currently contain the equipment needed to measure these values.

Response 98

The location of Monitor 9 was selected and installed specifically to provide noise information for implementation of the Noise Evaluation Task Force recommendations. It is also used for enforcement of the noise limits, noise budget analysis, and contour development.

Response 99

Table 4 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 46 for monitor numbers). There, it is noted that Monitoring Site 10 was installed in 1986 and was formerly Monitoring Site 4.

Response 100

Sites 1, 2, 5, 6, 9, and 10 were manufactured and are monitored by Lochard.

Response 101

Table 4 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 46 for monitor numbers).

Response 102

Once a year the enforcement and budget monitors at sites 1, 2, 5, 6, 9, and 10 are calibrated and certified. Please see Table 4 for the most recent calibration dates. Further, four times a day the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Each time a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 103

The Lochard EMU monitors (please see Response 46 for monitor numbers) have the ability to monitor temperature, barometric pressure, wind speed, and humidity, but they do not currently contain the equipment needed to measure these values.

Response 104

The location of Monitor 10 was selected and installed specifically to provide noise information for implementation of the Noise Evaluation Task Force recommendations. It is also used for enforcement of the noise limits, noise budget analysis, and contour development.

Response 105

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There, it is listed that Monitoring site 11 was installed in 1988.

Response 106

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 107

Table 5 lists the manufacturer, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 108

Every three years monitor sites 3, 7, 11, 12, 15, and 16 are calibrated and certified. Please see Table 5 for the most recent calibration dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock, then a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number

of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 109

The Larson Davis monitors at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, or humidity. These monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 110

The location of Monitor 11 was selected by the Noise Evaluation Task Force which recommended that two monitors (11 and 12) be added to help shape the contour in conjunction with Monitor 10 nearest to the residential areas at the south end of the airport.

Response 111

Table 5 lists the manufacturer, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There, it is listed that Monitoring site 12 was installed in 1988.

Response 112

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 113

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 114

Every three years monitor sites 3, 7, 11, 12, 15, and 16 are calibrated and certified. Please see Table 5 for the most recent calibration dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock, then a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 115

The Larson Davis monitors at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, or humidity. These monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 116

The location of Monitor 12 was selected by the Noise Evaluation Task Force which recommended that two monitors (11 and 12) be added to help shape the contour in conjunction with monitor # 10 nearest to the residential areas at the south end of the Airport.

Response 117

The location of Monitor 12 was selected by the Noise Evaluation Task Force which recommended that two monitors (11 and 12) be added to help shape the contour in conjunction with monitor 10 nearest to the residential areas at the south end of the Airport.

Response 118

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There, it is listed that Monitoring Site 13 was installed in 1988.

Response 119

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 120

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 121

Every two years monitor sites 4, 8, 13, 14, 17, and 18 are calibrated and certified. Please see Table 4 for exact dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Then a report is generated and automatically prints out the status for all of the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 122

The Larson Davis monitors at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, or humidity. These monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 123

The location of Monitor 13 was selected by the Noise Evaluation Task Force which recommended that two monitors (13 and 14) be added for accurate monitoring of the boundary of the 65 dB CNEL contours, and to help shape the contour in conjunction with monitor 9 nearest to the residential areas at the north end of the Airport.

Response 124

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There, it is listed that Monitoring site 14 was installed in 1988.

Response 125

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 126

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 127

Every two years monitor sites 4, 8, 13, 14, 17, and 18 are calibrated and certified. Please see Table 4 for exact dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Then a report is generated and automatically prints out the status for all of the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 128

The Larson Davis monitors at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, or humidity. These monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 129

The location of Monitor 14 was selected by the Noise Evaluation Task Force which recommended that two monitors (13 and 14) be added for accurate monitoring of the boundary of the 65 dB CNEL contours, and to help shape the contour in conjunction with monitor 9 nearest to the residential areas at the north end of the airport.

Response 130

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There, it is listed that Monitoring site 15 was installed in 1988.

Response 131

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 132

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 133

Every three years monitor sites 3, 7, 11, 12, 15, and 16 are calibrated and certified. Please see Table 5 for the most recent calibration dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock, then a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 134

The Larson Davis monitors at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, or humidity. These monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 135

The location of Monitor 15 was selected to monitor CNEL noise in conjunction with monitor # 5, and to help identify noise events on arrivals and departures on Runway 7R/25L.

Response 136

Table 5 lists the manufacturer, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There, it is listed that Monitoring site 16 was installed in 1988.

Response 137

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 138

Table 5 lists the manufacturer, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 139

Every three years monitor sites 3, 7, 11, 12, 15, and 16 are calibrated and certified. Please see Table 5 for the most recent calibration dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Then a report is generated and automatically prints out the status for the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 140

The Larson Davis monitors at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, or humidity. These monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 141

The location of Monitor 16 was selected to monitor CNEL noise in conjunction with monitor 6, and to help identify noise events on arrivals and departures on Runway 7L/25R.

Response 142

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers). There, it is noted that Monitoring Site 17 was installed in 1988.

Response 143

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 144

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 145

Every two years monitor sites 4, 8, 13, 14, 17, and 18 are calibrated and certified. Please see Table 5 for exact dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Then a report is generated and automatically prints out the status for all of the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 146

The Larson Davis monitors at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, or humidity. These monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 147

The location of Monitor 17 was one of the last two noise monitors selected to help identify noise events on arrivals and departures on Runway 12/30.

Response 148

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis

sites (see Response 58 for monitor numbers). There it is noted that Monitoring Site 17 was installed in 1992.

Response 149

Larson Davis is the manufacturer of Monitoring Sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18.

Response 150

Table 5 lists the manufacturer, serial number, modem type, components, microphone type, battery charger type, installation date, and most recent calibration dates for all Larson Davis sites (see Response 58 for monitor numbers).

Response 151

Every two years monitor sites 4, 8, 13, 14, 17, and 18 are calibrated and certified. Please see Table 5 for exact dates. Further, once a night, the ANOMS system sends set-up parameters to calibrate and to synchronize the clock. Then a report is generated and automatically prints out the status for all of the 18 noise monitors. The RMT Download and Calibration Status report shows the battery voltage, the time drift or resynchronize, the number of events recorded, how many calibrations are performed throughout the day, the calibration level, and whether the calibration was a success, failure, or unstable.

Response 152

The Larson Davis monitors at sites 3, 4, 7, 8, 11, 12, 13, 14, 15, 16, 17, and 18 do not have the ability to monitor temperature, barometric pressure, wind speed, or humidity. These monitors are scheduled to be replaced with Lochard EMU's in the next 18 months.

Response 153

The location of Monitor 18 was one of the last two noise monitors selected to help identify noise events on arrivals and departures on Runway 12/30.

Response 154

Lochard Corporation is the manufacturer of the software system. The program is ANOMS Version 6.7-05. ANOMS Version 8 is currently being configured for Long Beach Airport, and should be fully operational by late 2006.

Response 155

Noise levels have been stored in the ANOMS system since January 1998. Some prior years are archived on data tapes.

Responses 156 through 163 and 166 through 173

There is no noise budget for monitors 1–8 or 11–18.

Responses 164 through 165

The noise budget for monitors 9 and 10 is shown in Table 6. The budgets are based on CNEL, which means one flight in the daytime period (7 a.m.–7 p.m.) counts as one flight, one flight in

the evening period (7 p.m.–10 p.m.) counts as three flights, and one flight in the nighttime period (10 p.m.–7 a.m.) counts as ten flights against the budgets.

TABLE 6
NOISE BUDGETS FOR MONITORS 9 AND 10

Airport User	Monitor 9	Monitor 10
Air Carrier	70.0	84.6
Commuters	0.4	3.6
Industrial	8.5	6.6
Charter	0.14	0.09
General Aviation	23	26

Response 174

INM Version 6.1 is the latest version of this FAA model.

Response 175

Arcview is made by ESRI of Redlands, California.

Response 176

The noise data produced by the INM are compared to the noise monitor results from the Long Beach Airport permanent noise monitoring sites. This work is done by Acoustic Analysis Associates, Inc. In addition, Mestre Greve Associates does a quality control review of the input data used in the INM contours shown in the Draft EIR. This review includes an independent comparison of the input data used in the INM against the Airport operational data.

Response 177

The INM used standard aircraft definitions and profiles for all aircraft except 9 aircraft which were modified to get noise model results to match the noise measurement system data. The modified aircraft/profiles were the B727 with hushkit, the B767, the A320, the C-17, the CRJ regional jet, the GII, the MD83, and 2 helicopters: the B206L and the B212. These modifications were done by Acoustical Analysis Associates, Inc.

Response 178

The INM runs used an average annual temperature of 58.8°F and a pressure of 29.92 inches of Mercury. The default INM headwind of 8 knots was used.

Response 179

ANOMS was originally developed by Harris Miller, of Miller & Hanson and was most recently upgraded by Lochard.

Response 180

Lochard Corporation is the manufacturer of the software system, the program is ANOMS Version 6.7-05. ANOMS Version 8 is currently being configured for Long Beach Airport, and should be fully operational by late 2006.

Response 181

ANOMS has the ability to monitor weather data, but the Long Beach system does not include these sensors.

Response 182

Complaints are collected, investigated individually, correlated with events, and input into the ANOMS database. The complaints are then reported to the AAC and ANAC, City Council, and posted on the City of Long Beach website. The report shows how many complaints, how many people filed complaints, analysis of the time period of the complaints, category of the aircraft, how many of the complaints related to violations of the ordinance, how many complaints related to air carriers, and a plot of the complaints on a district map. Complaints are not used to issue violations. Violations may only be issued for Noise Ordinance infractions.

Response 183

It is not clear what the commenter means by “criteria.” All complaints are investigated and reported. No criteria are used to eliminate or discard complaints. If a person filing a complaint does not provide an address or location, the complaint is not plotted on the district map, but is still counted as a complaint.

Response 184

The INM contours are based on aircraft noise databases contained in the INM. The INM noise contours are compared to noise measurement data and the INM inputs are modified to so that the INM contours match the measurement data. As such, any discrepancies in the measurement data are reflected in the noise contours.

Response 185

Walls can provide some shielding, resulting in lower noise levels. However the microphones are placed approximately 20 feet high to avoid this effect. Trees and foliage can both shield as well as cause higher ambient noise due to wind rustling of leaves.

Response 186

All aircraft noise readings at Site 3 near Bixby Hill are accounted for in the CNEL contour.

Response 187

The data in Table 3-2 are taken directly from reports generated by the ANOMS software. The system keeps track of aircraft and non-aircraft noise and computes CNEL for aircraft and non-aircraft noise.

Response 188

The ANOMS system is programmed to identify aircraft noise events. This identification is based on thresholds, duration, and the presence of a corresponding radar flight track. Based on these parameters, the system tracks aircraft noise events and computes the CNEL from that data.

Response 189

It is assumed that the commenter means ‘compiled’ and not ‘complied.’ The total CNEL is computed from the noise measured by the system for all noise data collected by the system independent of whether or not the noise is associated with an aircraft.

Response 190

The noise ordinance includes Section 16.43.040, which identifies noise limits for monitoring stations 1, 2, 5, 6, 9, and 10. These are mapped in Exhibit 1-10 of Appendix F of the Draft EIR. These monitors are located just outside the Airport boundary, with the farthest being approximately 2,000 feet from the Airport boundary.

Response 191

The contours shown in Exhibit 3-4a of Appendix F do not extend over the ocean. The area east of the 605 freeway does not show the road network. The projections beyond Site 3, which is the first monitor over flown on a typical approach, are done using the INM computer program. The INM computes noise levels in a grid area much larger than the contours and uses contouring software to locate the noise contours.

Response 192

At the time the Draft EIR was being completed, calendar year 2004 was the most recent year of data available for use in the baseline analysis.

Response 193

In the noise budget, the night penalty is applied to the flight and multiplied by a factor of 10. If a flight that produces noise equivalent to one flight of the base aircraft assumed in the ordinance and that flight occurs at night, then that flight is entered as 10 flights for purposes of computing the budget. This is explained in detail in Appendix F on page F-29.

Response 194

The City of Long Beach has adopted a General Plan. That General Plan contains numerous elements. One of those elements is the Noise Element. The requirements for what a Noise Element contains are described in Appendix F page F-25, second and fourth bullet points. A copy of the *General Plan Noise Element* is available from the City of Long Beach.

Response 195

It is not clear what the commenter means by non-compliant. The Noise Ordinance contains noise limits for aircraft. Aircraft that are in violation are identified and treated according to the requirements of the ordinance and reported to the City Council annually in detailed reports. The Noise Ordinance also includes a budget, and the Noise Element references a 65 CNEL limit for the Airport. Budget year 2002–2003 exceeded the budget, while Budget year 2003–2004 did not. Annual CNEL contours for year 2004 included homes within the 65 CNEL contour for the first time in the last 10 years.

Response 196

Yes, the Long Beach Airport Noise Budget considered the load values of full planes. Appendix , page F-46 describes the load factor assumptions in the first bullet point. Of more importance at Long Beach Airport are the long haul flights to the east coast which affect weight more than load factor due to the high fuel requirements to travel the longer distance.

Response 197

A hypothetical reduction of 50 percent of the night operations was done solely to determine how many additional flights could be accommodated if there were fewer night flights and a quieter fleet mix. There has been no assumption that this will actually happen, only an analysis of what effect this would have if it did happen. Because the reduction was computed to determine if additional flights could be accommodated, there are no measurements to report.

Response 198

American Airlines' departure will mean the removal of some MD80 aircraft. However, Alaska Airlines also uses the MD80, so this aircraft, which is noisy on departure, is still in the fleet. If Alaska adds more MD80s, then American Airlines' withdrawal will have little effect on the noise budget. If the American MD80s are replaced with quieter aircraft, the budget numbers will decrease.

Response 199

MGA is Mestre Greve Associates located in Laguna Niguel, California. MGA is a Consulting Engineering firm specializing in noise and air quality studies. Vincent Mestre, a licensed Professional Engineer, is responsible for the Long Beach Airport work.

Response 200

The AAAI files referenced are the INM files for year 2004. For the full budget analysis, these files were modified to reflect the Optimized Flights Scenario and the INM was rerun to generate the noise contours for the Optimized Flights Scenario.

Response 201

The noise contours for year 2000 though year 2003 are available from the City of Long Beach. There are no significant differences between these contours and year 2004 contours. These contours are not relevant to the Draft EIR and are not presented here. The base year for the Draft EIR was the year 2004.

Response 202

The City of Long Beach has a maintenance contract with Lochard Corporation. Preventative maintenance, routine maintenance, and troubleshooting are also performed by Airport staff.

Response 203

Duct tape and plastic are used to cover the opening of the pole when the microphone staff is removed for rotation/calibration. This was the case in June–July 2004 on Monitor 3.

Response 204

The FAR Part 150 was submitted to the FAA in June of 1986. However, since that time, quarterly and annual CNEL contours are prepared by the Airport and submitted to the City Council and the County of Los Angeles who forwards them to the Caltrans Division of Aeronautics.

Response 205

No, the City has not applied for any grants in the last three years. Current noise monitoring system upgrades are being funded by the Airport Enterprise Fund.

Response 206

The Draft EIR does not recommend property acquisition as part of this project.

Response 207

It is likely that the City will seek FAA grant funds to assist in the Sound Insulation Program.

Response 208

Because the program has not yet been developed, it would be speculative to comment on the amount of money available to residents for noise attenuation. For similar projects, the work is contracted for and paid for by the City and not the resident.

Response 209

The airport has not acquired any land using noise grant money.

Response 210

The INM noise model includes noise/power/distance (NPD) curves for each aircraft in the noise model. These NPD curves are based on actual noise measurements and include all of the effects described in the comment (i.e., fans and compressors in high-bypass engines). NPD curves are provided for both departure and arrival operations.

Response 211

The noise contours were developed using the INM computer model. Data from the noise monitoring system was compared to the INM model output at the noise monitoring locations and used to validate the contours generated by the computer. This information was then reported to the public in the EIR.

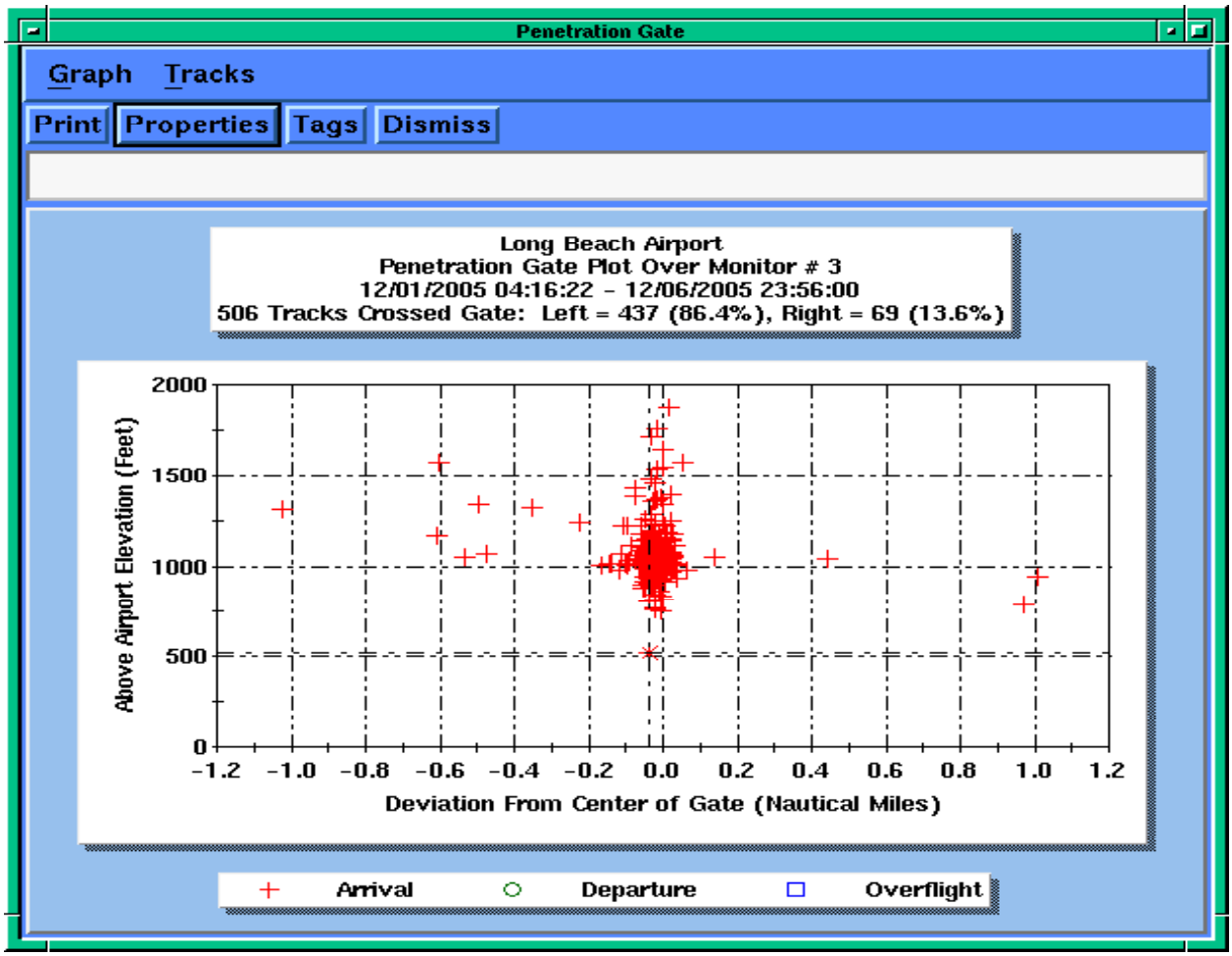
Response 212

A plot of the radar analysis is provided below as Exhibit 6 and shows the altitude and location of aircraft passing over a gate located on RMT 3 for the period of 12/1/05 through 12/6/05.

Response 213

Yes. The effects the commenter described are reflected in the noise measurement data which is collected at each monitor site. These measurement data are used to validate the noise contours.

EXHIBIT 6
PENETRATION GATE PLOT OVER MONITOR 3



Response 214

No. Helicopters were modeled using the INM in an effort to standardize noise measurements.

Response 215

Yes, the City has modified the INM model database. The aircraft profiles were modified in order to produce computed noise levels that matched the noise measurement data from the ANOMS system. Such profile modification allows the INM user to customize the model to reflect the different flight procedures used by the airlines as well as to model local effects, if any.

Response 216

The question is confusing. The FAA radar does not measure noise levels. The City does measure noise levels at each of the noise monitoring sites. The City does monitor FAA radar signals and does track each flight in the ANOMS system. FAA radar data obtained from passively monitoring the radar system is used to correlate noise events and aircraft flights.

Response 217

As previously stated, the City measures noise levels at each of the noise monitoring sites. The City also monitors FAA radar signals and tracks each flight in the ANOMS system. FAA radar data obtained from passively monitoring the radar system is used to correlate noise events and aircraft flights.

Response 218

It is assumed that the commenter mean 'option' not 'opinion' as stated in the question. No this option is not used. The census tract data is too crude for this application. The census tract data only contains the census tract boundary and the number of people in that census tract. If a noise contour bisects a census tract, as is the case in Long Beach, the INM has to make gross assumptions about the distribution of people throughout the tract to estimate the number people in the contours. For the Draft EIR, the actual parcel lot lines were used to count the number of residential units within the contour. If the contour touched a parcel, independent of how much of that parcel was in the contour, that parcel was considered within the contour. The parcel maps with individual lot lines were obtained from the City of Long Beach GIS.

Response 219

It is true that noise contours are more uncertain far from the airport and that the uncertainty decreases as one gets closer to the airport. The commenter suggestion that contours 'are often considered to have a precision of approximately plus or minus 3 dB' is a general statement that may or may not apply at any given airport. First, the measured accuracy of a contour is stated as an uncertainty, not a level of precision. Precision has a different meaning related to resolution not accuracy. The commenter's reference to plus or minus 3 dB is, at best, a rule of thumb and is not a very good estimate of the uncertainty at Long Beach in the vicinity of RMT 3. Table 3-2 of Appendix F shows that RMT 3 measured an annual aircraft CNEL of 58.8 dB for Year 2004. An examination of the output files for INM computer runs for the year 2004 show that the INM prediction was for 57.6 CNEL at RMT 3, a difference of 1.2 dB. This is well below the plus or minus 3 dB tolerance stated in the comment and would be considered well within the expected uncertainty of the model and the uncertainty of the measurement system. It should be noted that requirement for airport noise monitoring systems (as specified in the California Airport Noise Regulations) is plus or minus 1.5 dB.

COMMENTER 179 CALIFORNIA EARTH CORPS
Dated: January 30, 2006

Response 1

This comment implies that the "nature and severity of the Health Risk from current operations" is known and was ignored in the Draft EIR. In fact, no data exist that can begin to separate the specific impacts, if any, of airport operations from those associated with the myriad of sources in Long Beach and the South Coast Air Basin (SCAB), in general, that affect air quality. Separation of impacts due to airport operations from those of other sources is extremely difficult because many sources in the SCAB emit similar chemicals; varying wind speeds and weather conditions complicate measurements; and amounts and timing of emissions from airport and other sources vary hourly, daily, and seasonally. Any attempt to actually measure airport contributions would require a large and long-term research study that is clearly not within the scope of CEQA requirements.

Fortunately, a useful analysis does not require the type of information envisioned in the comment. The key to this analysis is estimation of incremental impacts that might be associated with airport improvements. The modeling analysis is completely appropriate for this type of estimation, since the assumptions that go into estimation of current and future impacts are the same. Thus, the increment that might be due to changes in airport operations is likely to be reasonably accurate even if the modeling over- or underestimates total impacts. This type of analysis has been and will continue to be the most useful approach for assessment of new projects under CEQA.

The baseline conditions developed in the Draft EIR did include measured data of both criteria air pollutants and toxic air contaminants (TAC), as presented in the Draft EIR, Section 3.2, Table .2-6 (page 3.2-24) and Table 3.2-8 (page 3.2-26). This measured data would include contributions from all sources in the area. Data gathered for estimation of baseline conditions did not include any direct measurement of Airport contribution to total TACs in the air. As noted in the *City of Long Beach Baseline Air Quality and Noise Human Health Risk Assessment,*[90] sufficient measured air quality data are lacking and cannot be reasonably collected to differentiate airport contributions to total TACs in air.

As part of the environmental baseline conditions used in the Human Health Risk Assessment, an air toxic emission inventory was developed for airport sources, as presented in the Draft EIR, Appendix C, Table 3-8 (page 3-17). Important TAC sources associated with Airport operations evaluated include: aircraft, APU/GSE, on-Airport motor vehicles, and stationary sources such as on-site heating facilities and fuel storage tanks. TACs of concern were selected based on a comprehensive review of TACs potentially emitted from these various Airport sources. The selection of speciation profiles (TAC emission factors) used for each source type was included in the modeling protocol (presented in the Draft EIR, Appendix C, Attachment A) that was reviewed by the California Air Resources Board and South Coast Air Quality Management District. Baseline concentrations for TACs of concern <u>from airport sources</u> were then modeled based on emissions estimates and local meteorology. This approach provides the best available estimates of possible baseline impacts to air quality in neighborhoods surrounding the Airport, and thus provides the best available basis for examining possible <u>incremental</u> impacts of the future project and no project alternatives. Details of the source identification process, selection of TACs of concern, and estimation of baseline air quality impacts are defined in Appendix C, Air Quality Impacts and Human Health Risk Assessment technical report prepared in support of the Draft EIR. Additional and summary information is provided in Section 3.2, Air Quality and Human Health Risk Assessment of the Draft EIR.

Response 2

The emission factors for aircraft used in the analysis come primarily from the International Civil Aviation Organization (ICAO) database,[91] as incorporated into EDMS. This database includes emissions data for over 330 aircraft turbofan engines produced by 12 aircraft engine manufacturers. The certification dates for these engines (i.e., dates that the emission tests were conducted) range from the early 1970s to late 2003, and new engines are added as they become certified. The Airbus A-320 aircraft, flown by JetBlue, uses a variety of engines with the most common engine in the fleet being the International Aero Engines' V2527-A5. This is the engine assumed for the A-320s flying out of Long Beach Airport. The emissions data sheet for

[90] MWH Americas, Inc. and Alliance Acoustical Consultants, Inc. 2005 (February 4). *Final Report: Baseline Air Quality and Noise Human Health Risk Assessment*, prepared for City of Long Beach, Department of Health and Human Services. Long Beach: MWH and AAC.

[91] ICAO Aircraft Engine Emissions Databank. Available at: http://www.caa.co.uk/default.aspx?categoryid=702& pagetype= 90

this engine is included in the *ICAO Engine Exhaust Emissions Data Bank* document, which is included as Exhibit 7 below.

Topical Response 3.1.5 provides detailed discussion on ultrafine particulate matter. As noted in that response, no separate ambient air quality standards exist for ultrafine particulate matter beyond the national and California standards for particulate matter with aerodynamic diameters less than or equal to 10 micrometers (PM_{10}) and 2.5 micrometers ($PM_{2.5}$). Note that these standards were specifically developed to protect the public health with an adequate margin of safety.[92] In addition, no defined risk factors, beyond those developed for total diesel particulate matter (DPM) and specific toxic metals (e.g., chromium) which may be components of ultrafine particulate matter, have been developed for general ultrafine particulate matter. Comparison of project-related PM_{10} and $PM_{2.5}$ impacts with the health-based ambient air quality standards are presented in the Draft EIR, Section 3.2 and Appendix C, Section 4. Risks associated with DPM and toxic metals are addressed in the Draft EIR, Appendix C, Section 5. Ultrafine particulate matter is ubiquitous in the environment. Primary sources of ultrafine particulate matter include anthropogenic sources, such as fuel combustion (e.g., power plants, vehicles) and industrial processes (e.g., welding), and natural sources (e.g., wild fires, volcanoes, sea spray); secondary sources include atmospheric reactions of gases to form particles (e.g., transformation of nitric oxide to form ammonium nitrate).[93] The City has proposed a number of mitigation measures to reduce impacts from project-related air pollutants, including particulate matter, as discussed in the Draft EIR, Section 3.2.3 – Mitigation. These include several measures to reduce particulate matter impacts from construction equipment (MM-3.2-1, MM-3.2-2, MM-3.2-5, MM3.2-6, and MM-3.2-9), and airport operating mobile sources (MM-3.2-12, MM-3.2-13, MM-3.2-14, and MM3.2-15).

Response 3

The commenter states that the North Long Beach monitoring station (CARB Station No. 70072) is “miles away” and includes impacts “from the Ports[94] and the I-710 freeway.” The monitoring station, which is approximately 1.4 miles due west of the Airport’s west property line, does include impacts from the Ports and the I-710 freeway, as well as impacts from the I-405 freeway, major arterial roadways (such as Long Beach Boulevard), and the Airport. Since this station was used to describe existing air quality concentrations in the vicinity of the Airport, and since it includes impacts from all of these sources, the existing concentrations presented in the Draft EIR are conservative (i.e., higher than concentrations that would be measured closer to the airport). The high, conservative existing concentrations were also used to represent the background air quality around the airport. Using conservative background concentrations in the air quality impact analysis means that a smaller project incremental increase would result in a potential exceedance of the ambient air quality standards. Thus, using the north Long Beach station data to represent background concentrations is a conservative approach to analyzing air quality impacts for the project.

[92] 42 USC 7409 (b)(1).

[93] Wu, Chang-Yu and Pratim Biswas. June 2005. “A Summary of the 2005 Critical Review: Nanoparticles and the Environment,” *EM: The Magazine for Environmental Managers.*33–39.

[94] The “Ports” are the Ports of Long Beach and Los Angeles.

EXHIBIT 7

ICAO ENGINE EXHAUST EMISSIONS DATA BANK

SUBSONIC ENGINES

ENGINE IDENTIFICATION: V2527-A5
UNIQUE ID NUMBER: 1IA003
ENGINE TYPE: TF

BYPASS RATIO: 4.82
PRESSURE RATIO (π_{oo}): 27.2
RATED OUTPUT (F_{oo}) (kN): 111.2

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NOx	SMOKE NUMBER
D_p/F_{oo} (g/kN) or SN	0.4	30.6	56.2	11.6
AS % OF ORIGINAL LIMIT	2.3 %	25.9 %	59.6 %	50.4 %
AS % OF CAEP/2 LIMIT (NOx)			74.4 %	
AS % OF CAEP/4 LIMIT (NOx)			89.9 %	

DATA STATUS

- \- PRE-REGULATION
- x CERTIFICATION
- \- REVISED (SEE REMARKS)

TEST ENGINE STATUS

- x NEWLY MANUFACTURED ENGINES
- \- DEDICATED ENGINES TO PRODUCTION STANDARD
- \- OTHER (SEE REMARKS)

EMISSIONS STATUS

- x DATA CORRECTED TO REFERENCE (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)

- \- OUT OF PRODUCTION
- \- OUT OF SERVICE

MEASURED DATA

MODE	POWER SETTING ($\%F_{oo}$)	TIME minutes	FUEL FLOW kg/s	EMISSIONS INDICES (g/kg) HC	CO	NOx	SMOKE NUMBER
TAKE-OFF	100	0.7	1.053	0.041	0.53	26.5	-
CLIMB OUT	85	2.2	0.88	0.041	0.62	22.3	-
APPROACH	30	4.0	0.319	0.061	2.44	8.9	-
IDLE	7	26.0	0.128	0.105	12.43	4.7	-
LTO TOTAL FUEL (kg) or EMISSIONS (g)			437	32	2764	5382	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D_p/F_{oo} (g/kN) or AVERAGE SN (MAX)				0.29	24.9	48.5	9
SIGMA (D_p/F_{oo} in g/kN, or SN)				-	-	-	-
RANGE (D_p/F_{oo} in g/kN, or SN)				-	-	-	-

ACCESSORY LOADS

POWER EXTRACTION	0	(kW)	AT	-	POWER SETTINGS
STAGE BLEED	4.5	% CORE FLOW	AT	7%	POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.0-101.8
TEMPERATURE (K)	288 - 296
ABS HUMIDITY (kg/kg)	.0086-.0114

FUEL

SPEC	Jet A
H/C	-
AROM (%)	-

MANUFACTURER: International Aero Engines
TEST ORGANIZATION: Pratt & Whitney
TEST LOCATION: East Hartford, CT, USA
TEST DATES: FROM 12 Aug 92 TO 13 Aug 92

REMARKS

-

The commenter claims that the methods for collecting $PM_{2.5}$ do not actually collect $PM_{2.5}$-sized particulates. The City does not agree with this claim. The federal definition of $PM_{2.5}$ is (emphasis added):

> …particles with an aerodynamic diameter *less than* or equal to a nominal 2.5 micrometers…[95]

For comparison to the National Ambient Air Quality Standards for $PM_{2.5}$, particulate matter must be collected using a sampler meeting the design and performance specifications of the federal reference method[96] or with an equivalent method designated according to federal procedures.[97]

The commenter states that no methodology was included to differentiate the fraction of airport operation particulate matter from other sources (ships, trucks, and trains). This claim is not entirely correct. For the ambient air quality impact analysis, it is not necessary under CEQA to apportion the existing air quality to individual sources or source types. Once the measured existing (also used as background) concentrations are determined from data collected at the North Long Beach monitoring station, the incremental concentrations from a given project alternative are added to the background concentrations to determine the anticipated future concentrations associated with that alternative. Note that the incremental project impacts are airport-specific, and are based on the difference in airport concentrations between each project alternative and the existing conditions, as documented in the Draft EIR, Appendix C, Attachment I – Airport Contributions to Criteria Pollutant Concentrations. For the human health risk assessment, the airport-specific project incremental health risks are compared to CEQA significance thresholds, as detailed in the Draft EIR, Appendix C. Apportioning existing condition toxic air contaminant concentrations is also not required under CEQA.

Finally, the commenter claims that, due to variable meteorological conditions, multiple real-time, continuous readout monitoring stations with meteorology are required to determine health risk. The City disagrees with this claim. Health risks, as determined by methods developed by the California Office of Environmental Health Hazard Assessment and implemented in Appendix C of the Draft EIR, are estimated based on either annual or one-hour average toxic air pollutant concentrations. As such, a year of representative hourly meteorological data observations is sufficient to estimate cancer, chronic non-cancer, and acute risks. Since the meteorological data used in the analysis was collected on the Airport (see Appendix C, Attachment G for the method used to select the meteorological data), the results of the analysis are considered reasonable. Note that in *Summary Report - Community Ambient Monitoring: Black Carbon as a Surrogate for Diesel Exhaust Concentrations in Long Beach, California*,[98] it is noted that meteorological data obtained from the North Long Beach monitoring station "is representative of area wind conditions as it is a 10 meter tower." If the North Long Beach monitoring station is representative, then so is data collected at the Airport since the sources of concern with this project are also located at the Airport. Additional information is also provided in Topical Response 3.1.5.

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95 40 CFR 50.7(a) (as amended July 30, 2004).

96 40 CFR 50, Appendix L, Section 7.0.

97 40 CFR 53 Subparts E and F.

98 Winegar, E.D. 2006 (January 30). *Summary Report - Community Ambient Monitoring: Black Carbon as a Surrogate for Diesel Exhaust Concentrations in Long Beach, California* Fair Oaks, CA: Applied Measurement Sciencep.22.

Response 4

The commenter claims that re-entrained dust from aircraft operations create a "…fallout plume measurable for miles downwind in ground samples…" but does not provide any citations that demonstrate this claim. To the contrary, the airport deposition studies conducted to date have found very little evidence of aircraft- or airport-specific contaminants beyond the airport property line. Several recent studies conducted specifically around airports include:

5. Two deposition studies conducted at Boston Logan International Airport, using different methods to determine deposition and sources concluded that:

   > The deposition samples from community sites expected to be affected by aircraft operations did not differ significantly from the sample at the background site which was not expected to be affected by aircraft. The deposition sample from Runway 22, which was expected to reflect aircraft operations to the greatest degree, did not differ significantly from either the community sites or the background site. The similarities in the hydrocarbon distributions in the ambient deposition samples, and their similarity to reference data for urban contamination, suggest that the sources are not directly linked to Logan Airport, but are most likely associated with regional atmospheric sources of combustion.
   >
   > The ambient deposition samples did not contain significant levels of jet soot compared to the engine wipe sample, nor did they contain significant evidence of contribution from raw jet fuel.[99]

   and

   > It can be concluded that:
   > - the method did identify airport sources of inorganic elemental deposition;
   > - the method was not interfered with by fuel oil burning; and
   > - the maximum potential contribution of airport sources to deposition in the nearby communities is 0.3 percent.[100]

6. A deposition study conducted at Chicago O'Hare International Airport found that:

   > …deposited particles at all of the sites monitored near O'Hare bore little chemical resemblance to either unburned jet fuel or soot from jet exhaust. Instead, the collected material was chemically similar to general urban pollution, particles from burning heavy fuels and motor vehicle exhaust. These findings indicate that soot and oily deposits in communities near O'Hare are primarily the result of non-Airport emissions.[101]

7. In a deposition study conducted at Los Angeles International Airport which collected both metals data as well as polycyclic aromatic hydrocarbon (PAH) data, the findings were:

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[99] Chng, KM. 1997 (January). *Soot Deposition Study: Logan Airport and Surrounding Communities*, Waltham, MA: KM Chng Environmental Inc. p.iii.

[100] TRC. 1997 (January). *Soot Deposition Study: Logan Airport and Surrounding Communities*, Windsor, CT: TRC Environmental Corporation. p.i.

[101] Chng, KM. 1999 (December). *Findings Regarding Source Contributions to Soot Deposition – O'Hare International Airport and Surrounding Communities.* Burlington, MA: KM Chng Environmental Inc.. p.ii.

> The gravimetric data collected at the six monitoring stations tend to eliminate the airport as the major deposition source for the areas adjacent to the airport. The deposition rate data implicates freeway traffic for high daytime concentrations observed at the Felton Avenue School site. The nighttime concentrations data, highest at the Warren Lane School and Felton Avenue School during off-airport wind conditions implicate non-airport related particulate emissions sources to the east of the airport.
>
> The copper composition data indicates that a small fraction of the total deposition seen in the daytime is potentially from aircraft braking. The flourene [sic] found deposited on nighttime samples collected north and west of the airport, appear to [be] the result of residential wood combustion. The fluoranthene found deposited on nighttime samples collected south of the airport appear to be the result of either residential wood combustion, or road paving that was being performed near the Imperial Avenue School during the monitoring period.[102]

8. Finally, the South Coast Air Quality Management District conducted a gridded deposition study for total mass and elemental carbon fallout around LAX and concluded that motor vehicles, rather than aircraft, appear to be the major contributor to deposition.[103] Please see Topical Response 3.1.5 for additional details regarding the SCAQMD study findings.

Because the major source of fallout (including metallic elemental deposition) is from re-entrained roadway dust, fugitive particulate emissions from paved roads were included in the Draft EIR. Fugitive road dust is included as a line item in the emission inventories presented in Section 3.2, Table 3.2-9 (page 3.2-27) and in Appendix C, Tables 3-2 through3-6 (pages 3-11 through3-15). Fugitive road dust represents a substantial portion of the project-related incremental PM_{10} and $PM_{2.5}$ concentrations presented in the Draft EIR, Section 3.2, Table 3.2-13 (page 3.2-35). In addition, impacts from toxic metals found in paved road dust were included in the human health risk assessment by applying the California Air Resources Board PM Speciation Profile No. 471 to the fugitive roadway PM_{10} emissions (as noted in the Draft EIR, Appendix C, Section 3.1.4). The toxic air contaminant emission inventories presented in the Draft EIR, Appendix C, Table 3-8 include toxic metals associated with re-entrained road dust.

Response 5

Please see Topical Response 3.1.5 for detailed discussions of meteorological data selection and requirements for this CEQA analysis. The EPA's Monitoring Guidance[104] has indicated that airport data are acceptable for use in modeling, the meteorological data used were collected at Long Beach Airport, the data were obtained in a format that AERMOD is designed to accept, and SCAQMD approved the meteorological data used in the analysis. Collection of additional meteorological data was not necessary to complete the air quality impact analysis and human health risk assessment conducted for the Draft EIR.

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[102] LAWA. 2001 (January). *LAX Master Plan Technical Report – Deposition Monitoring*, Los Angeles World Airports, Draft Environmental Impact Statement/Environmental Impact Report, Technical Report 4, Attachment Z.

[103] SCAQMD. 2000 (September). *Inglewood Particulate Fallout Study Under and Near the Flight Path to Los Angeles International Airport.* (Report No. MA2000-05). Diamond Bar, CA: South Coast Air Quality Management District, Monitoring and Analysis.

[104] U.S. EPA. 2000 (February). *Meteorological Monitoring Guidance for Regulatory Modeling Applications.* (EPA-454/R-99-005). Triangle Park, NC: EPA, Office of Air Quality Planning and Research.

Response 6

The commenter claims that a study completed by Applied Measurement Science[105] (herein referred to as the "AMS Report") demonstrates that measured concentrations of particulate matter in neighborhoods near the Airport are orders of a magnitude higher than that used in the Draft EIR. Please see Topical Response 3.1.5 regarding the accuracy of claims made in the AMS Report. Since the AMS Report does not present measurements for PM_{10} or $PM_{2.5}$, there is no basis for the claim regarding "orders of magnitude higher." The AMS Report does present measurements of black carbon (a component of particulate matter). The measurements collected at the "source impacted" sites (sites where impacts from the Airport might be expected) are essentially the same order of magnitude as measurements collected at the "background" sites (sites where impacts are not expected from the Airport), as shown in Figures 13 and 14 of the AMS Report. Table 1 of the AMS Report presents the summary of black carbon measurements for all of the sites studied. Of the three sites with the highest black carbon measurements, two are "background" sites and the third is the farthest "source impacted" site from the Airport and the closest such site to the I-710 freeway. Thus, the data in the AMS Report does not indicate any order of magnitude difference, and does show higher impacts at sites nearest the freeways. The analysis conducted in the Draft EIR can be considered conservative, since it relies on North Long Beach monitoring station (SCAQMD Station No. 072, CARB Station No. 70072) data to define the existing and background concentrations. Note that this station is roughly three blocks from the LaLinda "background" site (one of the top three highest black carbon sites) in the AMS Report. Therefore, additional data collection for the Draft EIR was not necessary.

Response 7

Please see Topical Response 3.1.5 regarding the status of EDMS and AERMOD. As noted in that response, the FAA requested the removal of EDMS from the list of preferred regulatory air dispersion models because EDMS is not a single model but a linked set of emission and dispersion models and algorithms. Since 2001, EDMS has used the EPA's AERMOD model for dispersion calculations; EPA approved AERMOD for general use in the same Federal Register notice that removed EDMS from the list of preferred air dispersion models. Therefore, validation studies and performance evaluations are not necessary for use of EDMS as a dispersion model because those studies and evaluations have already been completed for AERMOD. In addition, EDMS has <u>not</u> been removed from the Guideline on Air Quality Models. Section 6.2.4 c of the Guideline states that (emphasis added):

> The latest version of the Emissions and Dispersion Modeling System (EDMS), was developed and is supported by the Federal Aviation Administration (FAA), *and is appropriate for air quality assessment of primary pollutant impacts at airports or air bases.* EDMS has adopted AERMOD for treating dispersion. Application of EDMS is intended for estimating the collective impact of changes in aircraft operations, point source, and mobile source emissions on pollutant concentrations….[106]

In addition, the air dispersion analysis conducted for the Draft EIR was essentially completed by the end of September 2005, prior to the adoption of the most recent version of AERMOD.

[105] Winegar, E.D. 2006 (January). *Summary Report – Community Ambient Air Monitoring Black Carbon as a Surrogate for Diesel Exhaust Concentrations in Long Beach, California.* Fair Oaks, CA: AMS.

[106] 40 CFR 51, Appendix W, Section 6.2.4 c. (as amended November 9, 2005).

Response 8

Please refer to Topical Response 3.1.5 for the discussion on ultrafine particulate matter, and response to Comment 1 above, for a discussion of the general approach to addressing aircraft emissions. Overall this comment does not address a perceived deficiency in the Draft EIR. The comment is noted and the City of Long Beach agrees that continued research on sources of TACs and their potential health impacts in the South Coast Air Basin is needed. The following discussions are taken from a recent airport EIR[107] and are provided solely for the commenter's information.

Airport Emissions and Link with Adverse Health Effects

The term "health risk assessment" is sometimes misinterpreted. A health risk assessment does not indicate whether a specific, observed health problem or symptom was caused by chemical exposure. Epidemiological studies are used to evaluate whether past chemical exposures may be responsible for actual health problems observed in real populations. Health risk assessments are used to estimate potential health impacts resulting from current or future chemical exposures in a population. In order to avoid underestimating chemical exposure, the health risk assessment prepared for the Draft EIR estimated risks for the maximally exposed individual (MEI), a hypothetical individual that lives, works, or goes to school at a location with the highest predicted concentrations of TAC in air, and who has other characteristics, such as inhalation rate and years of exposure, that result in maximum intake of TAC. In addition, toxicity criteria used in all health risk assessments are developed to be protective of groups that may be exceptionally sensitive to a chemical, such as children and the elderly. The result is a conservative estimate of potential health impacts associated with the Project. Health risk assessment is the appropriate tool to evaluate whether estimated future emissions associated with the Project may potentially result in human health impacts.

Health risk assessment cannot be used to link individual illnesses to past chemical exposures, nor can health risk assessments and epidemiological studies prove that a specific toxic substance caused an individual's illness.[108] It would be difficult to substantiate potential health risks estimated by risk assessment for an airport through epidemiological studies because of the typical lack of exposure information about the study population. It is necessary to understand all of the factors that may lead to an adverse effect. The population evaluated in the epidemiological study may have lived in the area for many years or just a few years. They may have had exposure to chemicals from other sources, such as work or emissions from other sources (i.e., automobile exhaust). They may have engaged in behavior such as smoking, drinking, overeating, or other lifestyle habits that increased their risk of adverse health effect. An observation of an adverse effect would not necessarily correlate with exposure to airport emissions.

Although subject to a number of uncertainties common to epidemiological studies, these types of studies have been performed at other airports in large metropolitan areas to determine whether individuals living near airports have a greater incidence of disease than populations living in other areas. For example, the Illinois Department of Public Health examined actual cancer incidence observed in communities near Chicago's

[107] Los Angeles International Airport, *Proposed Master Plan Improvements Final Environmental Impact Report (Final EIR),* SCH No. 1997061047, April 2004. (Part II, Volume 1, Topical Response TR-HRA-2)

[108] California EPA. 2001. *A Guide to Health Risk Assessment.* Sacramento: Office of Environmental Health Hazard Assessment.

O'Hare and Midway airports between 1987 and 1997.[109] Results of the study showed no elevation in cancer incidence for all cancers combined among whites, non-whites, males and females living near the airports. Trend analysis did not indicate a higher cancer burden for populations near the airports as compared to populations living farther away. This observation held true for all cancers combined as well as site-specific cancers. A study conducted by the Washington State Department of Health (1999) provided an examination of actual cancer cases near Washington State's SeaTac airport.[110] Results of the study indicated that incidence of cancer was not statistically significantly higher for the SeaTac area.

One of the limitations to airport epidemiological studies is that they treat living adjacent to an airport as an approximation for increased likelihood of exposure to carcinogens. This approximation would be invalid if people living near airports have a shorter duration of residence than people living further away. This lack of knowledge about the length of residence as well as the inability to assess actual exposure of individuals renders the use of distance a crude and unreliable measure of exposure. Other factors likely to impact the studies include population migration patterns, occupational exposures, and personal and lifestyle habits.[39] Health risk assessment is the best method to evaluate potential health impacts for Master Plan alternatives. Epidemiological studies cannot predict future impacts associated with estimated future emissions and inherent uncertainties, as discussed above, exist for the performance and use of epidemiological studies to determine potential health impacts of living near an airport. Health risk assessments performed in the Draft EIR used up-to-date risk assessment methodologies and modeling as well as conservative measures of exposure and toxicity to provide conservative estimates of potential risk and impact associated with the Project.

Air Quality and Human Health

Determining the cause of a current health problem or symptom is difficult. Many factors may influence if and how severe air pollution affects human health. For example, respiratory problems and cancer may be a result of workplace exposure, environmental exposure, or some other factor (e.g., personal habits such as smoking cigarettes). Further, air quality in the South Coast Air basin is degraded by many TACs from a variety of sources, of which traffic is the largest and most important.

Epidemiological studies have been performed for populations living near other airports. As described above under Airport Emissions and Link with Adverse Health Effects, these studies have found no evidence of increased cancer incidence in areas near Chicago's O'Hare field or Seattle's SeaTac airport. Thus, no evidence is available to corroborate general concerns about of cancer risk at or near major airports.

Epidemiological studies differ from risk assessments in that they describe actual incidence of cancer or other adverse health effects observed in real populations, and attempt to relate health effects to specific sources or causes. Risk assessments estimate potential health impacts using environmental data and exposure assumptions (e.g., lifetime exposure). Substantiating potential health risks estimated by risk assessment for

[109] Illinois Department of Public Health. 2001 (November). *Cancer Incidence in Populations Living Near Chicago O'Hare and Midway Airports, Illinois. 1987 – 1997.* Chicago: Office of Epidemiology and Health Systems Development.

[110] Washington State Department of Health. 1999 (February). *Cancer Rates in the Proximity of SeaTac International Airport (Questions 1 and 2 of the August 1998 Work Plan).* Seattle: Office of Epidemiology.

an airport through epidemiological studies is very difficult because of the typical lack of exposure information about the study population. Further, understanding all of the factors that may lead to an adverse effect is necessary to related health effects to specific causes. The population evaluated in the epidemiological study may have lived in the area for many years or just a few years. They may have had exposure to chemicals from other sources, such as at work. They may have engaged in behavior such as smoking, drinking, overeating, or other lifestyle habits that increased their risk of adverse health effect. Simple observations of adverse effects cannot be used to establish a link between these effects and any source, including airport emissions. Given inherent uncertainties associated with epidemiological studies and the subsequent difficulties posed in trying to tie observed effects to a cause, use of approved risk assessment methodologies is the most appropriate way to evaluate potential health impacts associated with Airport emissions.

Some reports, including ones from studies conducted in the Los Angeles area, do suggest some association between some respiratory illnesses, such as asthma and allergies, and levels of some criteria pollutants and/or TAC. Some people may be more sensitive than the majority of the population to the effects of TAC. These people are considered “sensitive” receptors, and may include children, the elderly, people in poor health and/or those suffering from illness, such as chronic bronchitis. Sensitive individuals may form a subpopulation of people living in the Los Angeles basin that do suffer some health impacts due to poor air quality. Possible associations between illness and air quality, and the existence of sensitive individuals suggest that common sources of air pollutants could cause some health impacts at the concentrations in air found in the Los Angeles basin. However, concentrations of TAC in the vicinity of the Airport do not appear to be greater than those in other parts of the basin, according to SCAQMD studies. In fact, some of the higher pollution levels are found in areas such as Pomona and Riverside, at substantial distances from the Airport. This observation suggests that any health impacts are due to general air pollution due mainly to car and truck traffic, not single sources, such as the Airport, that would have locally greater impacts within the immediate area.

Many TAC could, in theory, cause impacts to human health, particularly in sensitive individuals. However, not all TAC in air in the Los Angeles basin have been studied using epidemiological approaches. Possible emissions for all sources were, however, examined in the assessment of possible human health impacts prepared for the Draft EIR. In particular, jet fuel emissions were included in the evaluation in as much as tank farm emissions and emissions during fueling and aircraft operation were accounted for in the emissions inventory conducted to support the EIR. Jet fuel is composed of many compounds, and potential health effects associated with exposure to jet fuel emissions were evaluated in terms of the toxic components of jet fuel.

As discussed above under Airport Emissions and Link with Adverse Health Effects, the best available means to assess the potential for impacts to human health is a health risk assessment as performed for the Draft EIR. Results of the health risk assessment presented in the Draft EIR indicate that human health risk and hazards estimated for the Project would be less than CEQA thresholds of significance. No mitigation would be required. In 2020, implementation of the Project is likely to reduce the impact of the airport over that for current operations for residents and school children, and could result in slightly less exposure to TAC.

Response 9

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

Response 10

This references the letters submitted by Camille Marie Sears (Commenter 169) and Applied Measurement Science (Commenter 182). Responses to these comments are provided in response to their respective letters.

COMMENTER 180 JANICE SAMPSON
Dated: January 30, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 2

Please see Topical Response 3.1.5 pertaining to the methodology for the air quality and human health risk assessment evaluations for information regarding this issue.

Response 3

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 181 SHUTE, MIHALY & WEINBERG LLP ON BEHALF OF LBHUSH 2
Dated: January 30, 2006

Response 1

The relationship of the Proposed Project to the Optimized Flights has been fully discussed in the Draft EIR, as well in Topical Response 3.1.1. The Proposed Project is focused on provision of facilities needed to provide better passenger service at Long Beach Airport. Section 2.5.1 clearly identifies the 13 areas where improvements would be provided. None of these improvements are required to allow the introduction of additional flights. The evaluation of the Optimized Flights Scenario was provided at the direction of the City Council to fully disclose potential impacts associated with what might be a future possible flight scenario at the Airport within the provisions of the Airport Noise Compatibility Ordinance. As fully discussed in Section 2.7 of the Draft EIR, in order for the number of flights to be increased and still comply with the Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations. The provision allowing the airlines to obtain the additional flights is provided for in the Airport Noise Compatibility Ordinance and could occur independent of any facility improvements. For the Optimized Flights to be a component of the Proposed Project there would have to be an implementation mechanism associated with the Proposed Project that would allow or facilitate the additional flights. To state that the City Council should “weigh carefully whether the Project should be approved in light of its serious impacts” (those associated with the Optimized Flights) would imply that denial of the Proposed Project would also prevent future realization of flights over the minimum 41 air carrier flights that are provided for in the Airport Noise Compatibility

Ordinance. This reasoning is flawed. As clearly identified in Section 2.7 of the Draft EIR, the City would not have any discretion on allowing the flights if the conditions outlined in the Airport Noise Compatibility Ordinance were met. Realization of any increase in flights would result from air carrier decisions to optimize flight operations. As such, the potential increase in aircraft operations is independent of the Proposed Project.

The other issues referenced in this comment, pertaining to the adequacy of the analysis and range of alternatives, are addressed below in response to the specific comments that focus on these issues.

LBHUSH2's support for aspects of the Proposed Project is noted. The City shares LBHUSH2's desire to ensure that there are no actions taken or inactions allowed that would jeopardize the Airport Noise Compatibility Ordinance. The recognition of the importance of the Airport Noise Compatibility Ordinance is identified as part of the key objectives of the Proposed Project.

Response 2

The sizing of the terminal improvements was based on a study titled *Facility Requirements Analysis, Long Beach Municipal Airport* (HNTB, 2004), which used general industry standards, to determine an appropriate sizing of facilities to serve the minimum passenger levels provided for by the Airport Noise Compatibility Ordinance. The comment states, "…approving the Project will exert considerable pressure for the Noise Ordinance to be changed in the future." However, the comment does not provide any details to explain how the action would exert pressure to modify the Ordinance or otherwise substantiate the statement. The comment states that should the Airport Noise Compatibility Ordinance be modified in the future, the improvements would allow more flights to be served at the Airport. However, this is different from having a causal relationship on future modification of the Ordinance. There are currently no discussions at any level to modify the operational constraints provided for in the Airport Noise Compatibility Ordinance. City staff and the City Council have all voiced their support of the Ordinance and the importance of ensuring compliance with the provisions of the Ordinance. Additionally, on the regional level there are no plans to exert pressure on the City to modify the provisions of the Ordinance. The SCAG's *2004 Regional Transportation Plan* and accompanying *Regional Aviation Plan* both assume the minimum number of flights at the Airport. Mike Armstrong (with SCAG's Planning and Policy Department) indicated there are no plans at SCAG to forecast service that would exceed the minimum service levels provided for in the Airport Noise Compatibility Ordinance. It is unclear from the comment why approving facility improvements would be the catalyst for changing the Ordinance. Additionally, it should be noted any changes to the Ordinance would be considered a "project" under CEQA and would require environmental documentation to evaluate the impacts associated with those modifications.

Response 3

Your comments are noted; however, the City disagrees that there is a need to address an assumption that the restrictions associated with the Airport Noise Compatibility Ordinance would some day be removed from the Airport. As indicated in response to Comment 2, above, the City fully supports the continuation of all the provisions of the Airport Noise Compatibility Ordinance. To assume the modification or elimination of the Ordinance would be speculative when there has been support for Ordinance at every level and there are no discussions or pending actions that would modify the Ordinance. Not only has the City voiced its support of the Ordinance, SCAG has incorporated the minimum number of flights at the Airport into the regional planning documents, and the FAA has reaffirmed the grandfathered status of the Ordinance as it relates to ANCA. CEQA Guidelines Sections 15144 and 15145 pertain to forecasting and speculation. The CEQA Guidelines provide a general "rule of reason" by limiting the requirement for

forecasting to that which could be reasonably expected under the foreseeable circumstances. It does not require an EIR to engage in speculation. Elimination of the Ordinance would not be considered to be a reasonably foreseeable event. Additionally, the City does not believe that it would be in best interest to provide documentation addressing an action that neither the City nor the community would support.

The footnote identifies specific information that should have been included in the Draft EIR if some difference in taxi/idle time between the alternatives had been analyzed. This was not the case. The existing conditions (2005), project (2011 and 2020), and no project (2011 and 2020) scenarios all assume that taxi/idle time for commercial aircraft was 10 minutes per LTO (i.e., per turnaround). The Draft EIR only states that the additional parking positions MAY help reduce aircraft idling time. Therefore, the information specified in the footnote is not required for the Draft EIR. As indicated Response 181-4, below typically 15 percent or more of arrivals at Airports are more than 15 minutes behind schedule.

Response 4

The additional gates and aircraft parking spaces are needed to better serve the passengers associated with the minimum number of flights allowed by the Airport Noise Compatibility Ordinance. Currently, the Airport experiences ground delays because of inadequate facilities at the Airport. With the full implementation of the minimum number of commuter flights, additional and more prolonged delays would be anticipated. The number of gates was determined based on anticipated flight activity by time of day as presented in *Facility Requirements Analysis, Long Beach Municipal Airport* (HNTB, 2004). Flights do not space themselves out during the day as the commenter states.

Airport operators, due to interstate commerce implications, cannot control airline schedules and their need for parking positions at time of arrival/departure. HNTB's study included a forecast of parking position requirements, based on the 4.2 MAP forecast with the presumption that the current array of service patterns at the Airport (i.e., fairly large component of long haul destinations) would remain unchanged. This forecast yielded a demand for 14 peak hour aircraft parking positions. One additional position was added to accommodate off-schedule aircraft (typically 15 percent or more of arrivals at Airports are more than 15 minutes behind schedule), and added a further additional position (for a total of 16) to allow for the accommodation of a spare airline aircraft (for example, JetBlue Airways keeps a spare aircraft at Long Beach Airport in order to help mitigate departure delays caused by late arriving aircraft).

This total of 16 aircraft parking positions equals the number of parking positions at the Airport during the 1980s and 1990s when there were 41 daily commercial flights and a limited number of daily commuter flights. Six of these positions were allocated to adjacent tenant Gulfstream Aerospace to accommodate their growth during the late 1990s, at a time when airline activity at the Airport had reduced substantially. The ten current parking positions have filled to capacity because of off-schedule operations. This is without the full implementation of the 25 commuter flights. When this occurs, aircraft are required to wait (with engines running) on a taxiway until a position opens. Though the HNTB study identified the need for 16 aircraft parking positions, the City Council reduced this number and authorized consideration of 12 to14 parking positions to address the need of 41 daily commercial and 25 daily commuter flights.

This demonstrated need for the additional gates and aircraft parking spaces, is also integral to meeting most of the project objectives identified in the Draft EIR. As discussed in Section 2.3, Project Objectives, the key objective of the Proposed Project is to "provide Airport terminal facilities to adequately accommodate the minimum number of flights provided for in the Airport Noise Compatibility Ordinance, as well as the number of passengers served by those flights."

Ensuring that there is adequate ramp capacity is crucial to serving those flights and passengers without undue delays. The next two project objectives identify the need to (1) maximize safety and security of passengers, visitors, and tenants by adhering to Transportation Security Administration, FAA, and all applicable State and local standards including the City's fire, building, and safety codes; and (2) ensure that project sizing and design of the improvements is in keeping with the parameters of the adopted Airport Noise Compatibility Ordinance. If the Airport has insufficient ramp capacity resulting in increased delays as the commuter flights are added, the terminal area would become more congested, as it is required to serve the passenger loads associated with the flight delays. This would potentially result in capacity standards being exceeded, with resultant safety concerns. The sizing of the ramp facilities is directly relevant to the final objective of sizing and designing the improvements in keeping with the parameters of the adopted Airport Noise Compatibility Ordinance. As discussed above, the sizing must be designed to serve the minimum number of flights without undue ground delays.

Response 5

The commenter is incorrect in stating that the Airport already accommodates 41 daily commercial and 25 daily commuter flights. Currently, four commuter flights are being offered at the Airport – one by US Airways (America West) and three by Delta. It is anticipated that full utilization of the remaining 21 commuter slots will occur within the next few years. Therefore, the analysis of the Proposed Project reflects the 41 commercial flights that are currently operating at the Airport, and the 25 commuter flights because they are allowed under the Airport Noise Compatibility Ordinance and will likely occur within the foreseeable future.

Please refer to Topical Response 3.1.3 regarding alternatives to the Proposed Project.

Response 6

Please see Topical Response 3.1.1 and response to Comment 1, above.

Response 7

Your concurrence with the comments made by Camille Marie Sears (Commenter169) is noted. These comments have been responded as part of response to Commenter 169).

Response 8

The commenter appears to misunderstand the method used to account for reverse thrust. Since reverse thrust is a high-thrust mode, it is reasonable to estimate reverse thrust emissions by overestimating the amount of time that aircraft spend in the takeoff and climbout modes of operation. The air quality impact analysis assumes that all aircraft depart the Airport at each aircraft's design maximum takeoff weight. Note that EDMS allows the user to specify the approximate takeoff weight for each aircraft, and the higher the weight, the longer the aircraft spends in the takeoff and climbout modes. However, many flights are not fully loaded, and the actual takeoff weight is less than the design takeoff weight. Thus the air quality analysis overstates the takeoff and climbout emissions by overstating the takeoff weight. This overstatement is roughly equivalent to almost 13 seconds in takeoff and climbout modes combined. This 13-second time in mode is a reasonable approximation of the time aircraft would use reverse thrust on landing. Thus, reverse thrust emissions are implicitly calculated by assuming that every aircraft departs the Airport at its maximum takeoff weight. This approach to addressing reverse thrust was included in the draft modeling protocol discussed with the South Coast Air Quality Management District and California Air Resources Board, and was not

objected to by these agencies. The protocol is included in the Draft EIR, Appendix C, Attachment A.

Response 9

The commenter is incorrect in assuming that the analysis uses 90 percent of the maximum takeoff weight for emission calculations. The analysis used 100 percent of the maximum takeoff weight for the emission calculations. Please also see Response to Comment 181-8 above regarding reverse thrust and takeoff weight.

Response 10

The comment implies that the Draft EIR does not contain single event contours or the number of operations associated with those contours or the number of night operations. This is not correct. The contours were presented in the same graphic format as the Oakland International Airport, Airport Development Program, Supplemental EIR (September 2003, SCH 1994113039). First, single event contours are provided in Exhibits 3.6-10a and 3.6-10b and Exhibits 3.6-11a and 3.6-11b. Second, operational data provided in Tables 3-1 and 3-3 of Appendix F provide the number of operations and a detailed breakdown of night operations. The prevalence of awakening is described in Exhibit 3.6-4. Exhibits 3.6-10a and b and 3.6-11a and b provide single event noise contours that can be used with the sleep disturbance curves of Exhibit 3.6-4. Remember that Long Beach has a night restriction and that there are few night operations of commercial aircraft. As illustrated in Table 3.6-5, there were a total of 531 night operations at the Airport during the year 2004. About half of these occurred within the first 10 minutes after 10 p.m. Only 25 operations occurred after 11 p.m. for the whole year. About half are departures and half are arrivals so any given resident would hear only 12 to 13 flights between 11 p.m. and 7 a.m. during the whole year. The night operations were primarily Airbus A320 operations. The single event contours for these aircraft are shown in Exhibit 3.6-10a for arrivals and 3.6-11b for departures. You can see from these exhibits that the 85 SEL contour does include homes just north and just south of the airport. The indoor noise level for an outdoor noise level of 85 SEL would be about 73 SEL with windows and doors open. Exhibit 3.6-4 shows that approximately seven percent are waking at this noise level so for homes within this 85 SEL contour, approximately seven percent of the population awoke for the infrequent night operation. Any reader can use the single event contours and the sleep awakening prevalence curve to understand the effect of night noise on their sleep. It is further important to note that this project will have no effect on night operations.

Response 11

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. The final design for the Terminal Building improvements would be completed upon City Council approval. It would be an inappropriate expenditure of funds to complete engineering and design studies for a project that the City Council has not approved. Therefore, as indicated in the Draft EIR on page 2-8, a schematic layout showing a potential footprint of the Airport improvements was developed to provide the environmental team basic parameters for the evaluation in the EIR. The nature and general extent of the project was described. On page 2-11, the Draft EIR clearly indicates that:

> Modifications to the interior of the Airport Terminal Building would be required to maximize efficiency of the floor space. This would include relocation of ticketing and concession areas and opening the center of the Airport Terminal Building to the proposed new holdroom area. As shown in the concept floor plan (Exhibit 2-5) this would result in a configuration similar to the original Airport

> Terminal Building layout."[111] The Proposed Project also intends to remove the existing carpeting to reveal the historic mosaics on the main concourse of the first floor.[112] The mosaics, which have been covered with carpet and possibly linoleum, are similar to the mosaics that are visible on the intermediate stair landings and the corridor on the second floor.

It was based on this analysis that the architectural historian was able to conclude there was the potential for impact. The Draft EIR also clearly states that the design would be done in compliance with the Department of the Interior's Standards for Rehabilitation, which is an attachment to the May 7, 1990, MOU that was adopted by the Long Beach City Council and the Long Beach Cultural Heritage Commission. Furthermore, the Draft EIR identifies that in compliance with Chapter 2.63 of the City's Municipal Code, the design of the Terminal Building improvements and modifications would require a review by the Long Beach Cultural Heritage Commission and issuance of a Certificate of Appropriateness by the Commission (Standard Condition 3.3-3). Additionally, the Draft EIR clearly identifies (page 3.3-17) that "*other design measures may be recommended by the Cultural Heritage Commission through the design review process, which would be required prior to issuance of a certificate of appropriateness*" (emphasis added). Clearly, should the Cultural Heritage Commission identify new significant impacts at the time of final design and review, then supplemental CEQA documentation would be required.

Response 12

It is assumed that this generalized statement is intended to apply to the topical areas addressed in the subsequent comments, which are addressed in their associated responses. No additional response is necessary.

Response 13

Table 1.11-1 in the Executive Summary does reference the mitigation program identified for the Proposed Project as being applicable to the Optimized Flights Scenario. It was not intended to infer that each mitigation measure identified for the Proposed Project in Table 1.10-1 would mitigate or reduce the long-term impacts associated with the Optimized Flights (which, again, could occur without adoption or implementation of the Proposed Project). In the introduction to both of the Summary Tables (Tables 1.10-1 and 1.11-1) the reader is referred to the discussion of the mitigation program in Section 3 and duplicated in its entirety in Section 6. The commenter should note in both Section 3.2 and in Section 6.3 that the air quality mitigation measures are clearly categorized as being measures associated with construction emissions and long-term emissions. The mitigation measures the commenter cites as being developed to address short-term NO_x and VOC were identified as short-term construction measures. Mitigation measures 3.2-11 through 3.2-15 were identified in the Draft EIR as being measures that would reduce operational emissions. Since the community would benefit from implementation of these measures with the minimum flight levels allowed under the Airport Noise Compatibility Ordinance, as well as with Optimized Flights, they were included in Table 1.10-1 (summary of the Proposed Project). The operational measures include use of ultra-low sulfur diesel, providing electric charging stations to support the operation of electric GSE and other on-airport vehicles, provision of units for pre-conditioned air on the ramp to allow pilots to plug in at the

[111] Prior to constructing the permanent holdroom adjacent to the terminal, public access to the aircraft used to be through the back of the terminal rather than out the north and south doors to the temporary holdrooms.

[112] The feasibility of restoring the mosaics is being explored as part of the Project. Until such time as the terminal improvements are initiated it is not possible to know if restoration is feasible. Considerations would be the conditions of the mosaics, the cost at restoring them, and ability to meet safety requirements (i.e., potential for slipping).

gate and turn off the APU, and requiring compliance with the 2002 South Coast GSE MOU or replacement agreements. These are the measures that would be help to minimize the long-term emissions associated with the Airport.

Response 14

You are correct that the mitigation measure identified is not included specifically for the purpose of mitigating an identified significant impact which would be caused by the Proposed Project. The Proposed Project does not result in any long-term operational impact requiring proposed mitigation. Since there was not a nexus between the impact and the measure, the EIR has recommended inclusion of the measures as a means to further reduce potential long-term emissions. The City would have the discretion to not adopt these measures because they are not required to reduce the impact associated with Proposed Project. However, during the preparation of the Draft EIR, the City of Long Beach staff was willing to have these measures included in the document because they represented a way to reduce current and future emissions associated with operation of the Airport, and which could be of benefit to the local community. Specifically with regard to the requirement of implementing the provisions of the 2002 South Coast GSE MOU, as stated in the Draft EIR, the City can enforce the provisions by including them in future lease agreements with the airlines.

Response 15

The commenter is incorrect in implying that the proposed mitigation measures only address PM_{10} and NO_x from GSE. The operational mitigation measures proposed in the DEIR address all pollutants (CO, NO_x, PM_{10}, $PM_{2.5}$, SO_2, VOC, and TAC) emitted from GSE and APUs (see the DEIR, Section 3.2.3 and Appendix C, Section 3.3). The unmitigated emissions of CO and NO_x from all operational sources combined exceeded the significance thresholds. The proposed mitigation would reduce CO emissions below the threshold of significance, leaving only NO_x emissions from operations above the significance level. The commenter also implies that emissions from vehicular traffic were significant and need to be mitigated. This is not true for NO_x emissions, since the project-related NO_x emissions from vehicles are less than existing conditions vehicular (roadway and parking) NO_x emissions. With regards to PM_{10} considerations near the terminal area identified in the DEIR, re-entrained road dust is the primary source contributing to the increase (over 90 percent). The City has added a mitigation measure (MM 3.2-17) to provide additional street cleaning of terminal roadways to reduce fugitive dust emissions. However, this additional mitigation is not expected to reduce PM_{10} concentrations to below the level of significance under the Optimized Flights Scenarios.

Response 16

Clearly, measured and forecast noise impacts are not project related impacts. However, the City is mindful and requirement for land use compatibility. Different from most airport proprietors, the City's land use compatibility efforts have historically focused on controlling noise at the source, rather than land and easement acquisition and acoustical treatment of incompatible land use. Included in the City's efforts was 12 years of litigation to preserve the source control protocol. With the Settlement Agreement in 1995 and later acknowledgement of the Airport Noise Compatibility Ordinance grandfathered status under the 1990 Airport Noise and Capacity Act, the City's source control approach has been validated, and noise impact forecasting more predictable.

The Long Beach Airport quarterly noise impact reports to the County of Los Angeles and the State of California showed zero noise impact in residential areas for two of the four quarters in

2004, in addition to zero impact for six years during the 1990s and three years in the early 2000s.

With the Baseline and Optimized Flights level forecasts in the DEIR, based on State Title 21 guidance, small impact areas are identified (15 and 11 homes, respectively). In response to this impact, a mitigation measure is proposed in the form of a land use compatibility program. This program also proposes to address impacts on school over and above State Title 21 requirements.

In summary, there historically has been significant variability in noise exposure, including several years of no incompatible land use. Although noise compatibility measures under State guidelines do not necessarily require acoustical treatment, as indicated by the commenter, this measure will be given consideration within the recommended mitigation measure of a land use compatibility program.

Response 17

The commenter is mistaken that the traffic impacts are project related. The traffic impact identified in the Draft EIR was associated with the Existing Plus Optimized Flights Scenario. Regardless, the Draft EIR did identify a mitigation measure to address this potential impact. The measure calls for the City to develop a traffic-monitoring program in conjunction with the allocation of additional flights. Based on the traffic analysis, mitigation may be required when Average Daily Peak Month passenger levels reach 12,700. The mitigation measure also identifies actions that would address the potential traffic impacts, such as implementation of transportation management control measures. The feasibility of implementing transportation management control measures to address the issue is demonstrated in the analysis of the 2020 Plus Optimized Flights analysis. The analysis for this timeframe assumes the implementation of the Douglas Park improvements and no impacts associated with the Optimized Flights are identified. Furthermore, the mitigation measure requires post-implementation monitoring and establishes the threshold that must be met (i.e., sufficient capacity enhancement have been provided to accommodate the traffic associated with the increased passenger levels). This measure recognizes several factors (1) the degree of uncertainty associated with the implementation of addition of flights, (2) the mitigation would not be required until a substantial number of flights and associated passengers are added, (3) measures that would address the potential impact have already been placed as conditions of approval for the Douglas Park development. This monitoring program requires the City to address the potential traffic impact associated with the Optimized Flights Scenario, but allows the City to coordinate potential improvements with other measures that may be implemented when the impact threshold is reached.

Response 18

Again, the commenter is mistaken regarding the parking impacts. This impact is associated with the Optimized Flights Scenario. The Draft EIR noted that if an additional 11 commercial carrier flights were added, then the proposed parking structure would not be sufficient to accommodate the projected passenger levels. Please see Topical Response 3.1.1 pertaining to the Proposed Project and the Optimized Flights Scenario.

Response 19

Your comment is noted and has been forwarded to the decision-makers as part of the Final EIR. The comments raised in this conclusion have been addressed in the responses above.

COMMENTER 182 APPLIED MEASUREMENT SCIENCE
Dated: January 30, 2006

Response 1

Although not explicitly stated in the comment, it is assumed that the uncertainty referred to by the commenter pertains to aircraft engine exhaust particulate matter (PM) emission factors only. The gaseous pollutant emission factors for carbon monoxide (CO), total hydrocarbons (THC), and oxides of nitrogen (NO_x), are based on the extensive International Civil Aviation Organization (ICAO) aircraft emissions database; and the sulfur dioxide (SO_2) emission factors are based on typical sulfur contents in jet kerosene and aviation gasoline.

In general, the commenter argues that uncertainty in aircraft engine PM emission factors makes the PM data presented in the Draft EIR inappropriate for a CEQA document. This argument is incorrect; the aircraft PM data is the best data available at this time, and appropriate for a CEQA document, as described below.

The commenter begins by claiming that only six aircraft engine emission factors from older aircraft were used to estimate emissions from the remaining fleet. This statement is incorrect. It was the acknowledgement that the only available PM data for commercial aircraft engines was over 30 years old that led the FAA to work with NASA, the EPA, and a host of other researchers to begin a series of PM tests on newer aircraft engines. The first set of these PM tests was conducted in 2004, and a second set was conducted in 2005. The results of the first set are available from NASA[113] and test data from the second set are being analyzed. The FAA also realized that an interim method to estimate aircraft PM emissions would be appropriate until reliable contemporary measurement data from multiple aircraft engines becomes available. Therefore, the First Order Approximation (FOA) was developed. The FOA relies on measured PM concentrations versus a smoke number from three different researchers[114,115,116] to determine the non-volatile PM mass emission rate for a given smoke number and fuel flow. The developed relationship[117] was verified with data obtained from other researchers[118] indicating that the estimate of non-volatile PM emissions from aircraft engines could be based on smoke numbers. Finally, the original FOA (Version 1) developed for non-volatile PM emissions[119] was conservatively adjusted upward (Version 2) by a factor of 4 (i.e., 4 times the original FOA

[113] National Aeronautics and Space Administration (NASA). 2005. Aircraft Particle Emissions Experiment (APEX). Available at https://particles.grc.nasa.gov/apex.html .

[114] Champagne, D.L., 1971. "Standard Measurement of Aircraft Gas Turbine Engine Exhaust Smoke," ASME-71-GT-88.

[115] Hurley, C.D. 1993. "Smoke Measurements Inside A Gas Turbine Combustor," AIAA 93-2070, Presented at AIAA/SAE/ASME/ASEE 29th Joint Propulsion Conference and Exhibit., Monterey, CA (June 28-30).

[116] Whyte, R.B., Ed. 1982. *AGARD Advisory Report No. 181 – Volume II. Propulsion and Energetics Panel Working Group 13 on Alternative Jet Engine Fuels.* North Atlantic Treaty Organization (NATO), Advisory Group for Aerospace Research and Development.

[117] Wayson, R.L., G.G. Fleming, B. Kim, and J. Draper, 2003. "Derivation of A First Order Approximation of Particulate Matter from Aircraft," Paper No. 69970, Presented at the 96th Annual Air & Waste Management Association's Conference & Exhibition, San Diego, CA (June 22-26).

[118] Wayson, R.L., G.G. Fleming, and B. Kim. 2003 (May). "Status Report on Proposed Methodology to Characterize Jet/Gas Turbine Engine Particulate Matter Emissions," (FAA-AEE-03-01) Washington D.C.: FAA, Office of Environment and Energy.

[119] Wayson, R.L., G.G. Fleming, B. Kim, and J. Draper. 2003. "Derivation of A First Order Approximation of Particulate Matter from Aircraft," (Paper No. 69970). Presented at the 96th Annual Air & Waste Management Association's Conference & Exhibition. San Diego, CA (June 22-26).

values) to account for the volatile fraction of PM[120] in aircraft engine exhaust. This conservatism is noted in the part of the FAA's First Order Approximation Qualifier that was omitted (ellipsis in quote on page 2 of 6) by the commenter. The entire qualifier is presented below (emphasis added):

> **First Order Approximation Qualifier**
>
> The Federal Aviation Administration's (FAA) first order approximation (FOA) methodology estimates PM emissions from commercial jet-turbine aircraft engines. The FOA serves an interim purpose of meeting PM compliance issues now, while the science and accuracy of PM measurement techniques mature. The non-volatile portion of PM is based on a correlation between the Smoke Number (SN) from the engine certification test and the fuel flow for a specific mode of operation, namely take-off, climb-out, taxi/idle, and approach. For some engines, a maximum SN is conservatively used because modal-specific SNs are not available. The volatile portion of PM is derived from a limited number of field measurements and theoretical relationships. *Due to the uncertainties associated with the currently available information, the volatile PM estimates include an additional margin to be conservative.* The accuracy and applicability of the FOA will be improved as future field measurements and scientific advances become available. In the future, every effort will be made to provide the statistical uncertainty for the FOA, and any subsequent studies will be structured so that the statistical uncertainty can be derived for the results. The FOA is only applicable to aircraft engines that have reported SNs and modal fuel flows. In cases where EDMS does not include aircraft PM emission estimates, use the best available information such as the following: averaging the aircraft engine PM data from AP-42 Volume II: Mobile Sources, 4th Edition, September 1995.

Further on, the commenter implies that the following statement comes from Wayson, et al. (2003),[121] "At a minimum, it is clear that the smoke number method that has been used does not represent the most current advances in measurement technology and likely does not accurate (sic) represent the actual emissions of aircraft, particularly as it relates to fine and ultrafine particles." However, the actual literature survey findings reported in Wayson, et al. (2003) are presented below (emphasis added):

- Small PM may be a health concern.
- It is a good approximation that all PM emitted by modern transport aircraft has an aerodynamic diameter of less than 2.5 micrometers. This is an important concern and controlled by the EPA health-based standards for $PM_{2.5}$ as well as PM_{10} .
- The EPA PM standards are massed based (mass/volume of air) at receptor locations. However, the engine certification process does not require the measurement and reporting of the PM mass data. A smoke number is determined during the certification process. The International Civil Aviation Organization (ICAO) has promulgated the most complete aircraft engine emission database includes the measured smoke number and fuel flow rates by engine mode.

[120] FAA. 2005. Memorandum from Office of Environment and Energy dated May 24, 2005. Subject: Use of the First Order Approximation (FOA) to estimate aircraft engine particulate matter (PM) emissions in NEPA Documents and Clean Air Act General Conformity Analyses.

[121] Wayson, R.L., G.G. Fleming, B. Kim, and J. Draper. 2003. "Derivation of A First Order Approximation of Particulate Matter from Aircraft." (Paper No. 69970). Presented at the 96th Annual Air & Waste Management Association's Conference & Exhibition. San Diego, CA (June 22-26).

> *Studies show that there is a correlation between the reported smoke number and mass emissions.*

- There is a lack of measured data to assist in the analysis to determine if an airport is in compliance with the EPA standards.
- PM are irregular in shape and often coagulate. This coagulation process results in different PM characteristics for different age plumes. This leads to a bi-modal distribution. A lognormal distribution is still appropriate for the soot component (non-volatile PM primarily containing carbon).
- PM include both volatile and non-volatile components. Soot is the most prevalent, non-volatile component. Metals are emitted, but in extremely small amounts.
- Effects on PM emission indices include fuel flow, engine design/operating conditions, altitude, and fuel composition.
- Efforts to predict emission indices, or more specific emission factors, may be characterized into four groups: simple factor, compound factor, grab samples or nearby measurements, and measurement based factors.

Wayson et al. (2003)[122] clearly states that a correlation exists between smoke number and mass emissions, then goes on to develop the FOA algorithm based on this demonstrated relationship.

Finally, the commenter implies that the FAA EDMS model was inappropriate based on a Federal Register notice that removed EDMS from EPA's list of preferred regulatory air dispersion models.[123] It should be noted that the FAA requested the removal of EDMS from the list of preferred regulatory air dispersion models because EDMS is not a single model but a linked set of emission and dispersion models and algorithms. Since 2001, EDMS has used the EPA's AERMOD model for dispersion calculations; EPA approved AERMOD for general use in that same Federal Register notice. Therefore, validation studies and performance evaluations are not necessary for use of EDMS as a dispersion model because those studies and evaluations have already been completed for AERMOD. In addition, EDMS has <u>not</u> been removed from the Guideline on Air Quality Models. Section 6.2.4 c. of the Guideline states that (emphasis added):

> The latest version of the Emissions and Dispersion Modeling System (EDMS), was developed and is supported by the Federal Aviation Administration (FAA), *and is appropriate for air quality assessment of primary pollutant impacts at airports or air bases.* EDMS has adopted AERMOD for treating dispersion. Application of EDMS is intended for estimating the collective impact of changes in aircraft operations, point source, and mobile source emissions on pollutant concentrations….[124]

In conclusion, the best available information was used to estimate aircraft PM emissions, following current FAA guidance. The emission factors used are presented in the *Final Air Quality and Human Health Risk Assessment Protocol,* which is included as Attachment A to Appendix C of the Draft EIR. The 2005 aircraft PM emission inventories are presented in

[122] Wayson, R.L., G.G. Fleming, B. Kim, and J. Draper. 2003. "Derivation of A First Order Approximation of Particulate Matter from Aircraft." (Paper No. 69970). Presented at the 96th Annual Air & Waste Management Association's Conference & Exhibition. San Diego, CA (June 22-26).

[123] 70 FR 68217, "Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule." (November 9, 2005).

[124] 40 CFR 51, Appendix W, Section 6.2.4 c. (as amended November 9, 2005).

Table 3.2-9, and the incremental (i.e., changes relative to the 2005 inventory) aircraft PM emissions for each future condition are presented in Table 3.2-14 of the Draft EIR. In addition, aircraft PM emission inventories for the existing and each future condition are presented in Appendix C, Tables 3-2–3-6. It was noted in Section 3.1.1.3 of Appendix C that the aerodynamic diameter of PM emitted from aircraft turbine engines is smaller than 2.5 micrometers ($PM_{2.5}$). Therefore, the PM_{10} and $PM_{2.5}$ emissions rates for these aircraft engines are considered equal. No additional analyses of aircraft engine PM emissions are required for the EIR.

Response 2

The commenter questions how the accuracy and uncertainties inherent in modeling will be addressed in the Draft EIR. The comment includes brief discussions of source emissions (specifically aircraft PM emissions), meteorological data, dispersion coefficients, and source types. Responses to each of these are provided below.

Source Emissions

The commenter claims that a report by Petzold and co-workers[125] provides an alternative method for estimating black carbon (BC) emissions from aircraft.[126] In fact, the report provides BC emission indices (in grams per kilogram of fuel burned) for one, older aircraft engine (Rolls-Royce/SNECMA M45H Mk501) at different engine loads. This data was reviewed by FAA and peer reviewers, and was rejected for use in verifying the First Order Approximation (FOA) method because the engine was not in the ICAO database (no smoke number was available for the engine), and the engine is no longer in use in today's commercial aircraft fleets.[127] As a matter of fact, the Petzold report states:

> Since the Rolls-Royce/SNECMA M45H Mk501 turbofan engine is known as emitting a huge amount of BC compared to more modern engine types, the obtained emission indices represent the upper range of mass emission indices with respect to all jet engines in service. Thus, an estimated overall emission index of 0.05 g kg^{-1} seems to be reasonable.[128]

The commenter also claims that the Petzold report provided a BC "emission factor of 84.1 grams of black carbon per take-off cycle" (assumed to mean landing and take-off cycle, or LTO). This value was not found in the report. The report does provide, in its Table 3 (included in

[125] Petzold, A., J. Strom, F.P. Schroder, and B. Karcher. 1999 (August). "Carbonaceous aerosol in jet engine exhaust: emission characteristics and implications for heteorogeneous chemical reactions," *Atmospheric Environment*. 33:2689-2698 (August).

[126] In Petzold et al. (1999) the exhaust aerosol was sampled on filter substrates which were analyzed for total carbon (TC) and BC by a thermal technique (Petzold and Niessner, 1995; Petzold and Schroder, 1998); filter sampling times were < 5 minutes during the ground test studies. The applied analytical method uses solvent extraction and heating of the filter sample in an oxygen-free atmosphere to remove organic compounds from the filter sample. Subsequently, the BC content of the deposited aerosol is determined from the evolving CO_2 during sample combustion. Hence, the carbonaceous fraction can be split into an organic (i.e. soluble and volatilizable), and a BC fraction which is defined as insoluble, thermally stable up to 500°C in a non-oxidizing atmosphere, and strongly light-absorbing (Petzold and Niessner, 1995). This procedure for determining BC is substantially different than the use of an aethalometer.

[127] Wayson, R.L., G.G. Fleming, and B. Kim. 2003 (May). "Status Report on Proposed Methodology to Characterize Jet/Gas Turbine Engine Particulate Matter Emissions." (FAA-AEE-03-01). Washington D.C.: FAA, Office of Environment and Energy.

[128] Petzold, A., J. Strom, F.P. Schroder, and B. Karcher. 1999. "Carbonaceous aerosol in jet engine exhaust: emission characteristics and implications for heteorogeneous chemical reactions." *Atmospheric Environment.* 33:2695.

Topical Response 3.1.5 as Table 1), a summary of fuel flow and BC emission indices (in grams per kilogram of fuel).[129]

One could use this data, along with the standard EPA times in mode for commercial carrier long- and medium-range jet aircraft operations (26 minutes in taxi/idle, 4 minutes in approach, 2.2 minutes in climbout, and 0.7 minute in takeoff)[130] to estimate the characteristic BC emission for a LTO. The calculated emission rate from the Petzold BC emission indices using these standard EPA times in mode is approximately 35 grams/LTO (see Table 2 in Topical Response 3.1.5), less than one-half the value claimed in the comment. Using the 41 LTOs/day allowed at the Airport, the annual BC emissions using the Petzold emission indices are estimated to be 0.58 ton per year. Applying the FOA factor of 4 to account for both volatile and non-volatile PM in the aircraft exhaust, the annual PM emissions would be 2.32 tons per year using the Petzold BC emission indices, substantially less than the 4.12 tons per year reported in the Draft EIR for existing conditions (Table 3.2-9 in Section 3.2, and Table 3-2 in Appendix C).

In developing the estimate of aircraft PM emissions in the comment, the commenter applies a factor to convert BC emissions to diesel exhaust particulate matter (DPM). It is not clear why this conversion is necessary, since aircraft engines do not emit DPM. Aircraft engines are combustion turbines fueled on jet kerosene (Jet A), while diesel engines are compression ignition, piston internal combustion engines. Both the fuel types and the engine technologies are different in these two combustion systems, thus one would not expect the exhaust emissions to be the same. In fact, the current general consensus in EPA's Office of Transportation and Air Quality is that the respective compositions of aircraft and diesel engine exhausts, based on measurements taken to date, are sufficiently different so that health impacts associated with one (diesel, for example) cannot be directly applied to the other.[131]

Therefore, aircraft PM emissions have been conservatively and appropriately assessed in the Draft EIR.

<u>Meteorological Data</u>

The commenter implies that the airport meteorological data were inappropriate for use in this regulatory modeling project using AERMOD. This statement is not supported by the EPA Meteorological Monitoring Guidance for Regulatory Modeling Applications.[132] The last paragraph of Section 6.7 of that document states (emphasis added):

> Although data meeting this guidance are preferred, *airport data continue to be acceptable for use in modeling. In fact observations of cloud cover and ceiling, data which traditionally have been provided by manual observation, are only available routinely in airport data*;…

[129] Petzold, A., J. Strom, F.P. Schroder, and B. Karcher. 1999. "Carbonaceous aerosol in jet engine exhaust: emission characteristics and implications for heteorogeneous chemical reactions," *Atmospheric Environment.* 33:2693.

[130] EPA. 1992. "Procedures for Emission Inventory Preparation. Volume IV: Mobile Sources," <u>EPA-450/4-81-026d (Revised)</u>, Ann Arbor, MI and Research Triangle Park, NC: EPA, Office of Air & Radiation and Office of Mobile Sources and Office of Air Quality Planning & Standards. p.141.

[131] Personal communication, J. Pehrson (CDM) and B. Manning (U.S. EPA), February 8, 2006.

[132] EPA. 2000 (February). "Meteorological Monitoring Guidance for Regulatory Modeling Applications." (<u>EPA-454/R-99-005).</u> Research Triangle Park, NC: EPA, Office of Air Quality Planning & Standards.

In addition, the meteorological data to be used were discussed with the South Coast Air Quality Management District[133,134] and it was determined that Long Beach Airport data was appropriate for use. The selection of meteorological data for this project is discussed in the Draft EIR (Appendix C, Attachment G – Meteorological Data Selection Report).

Dispersion Coefficients

The commenter implies that the dispersion coefficients for aircraft are based on stationary sources and thus highly uncertain for moving sources. This implication is not correct. The dispersion coefficients used in EDMS/AERMOD were developed from LIDAR analysis of aircraft exhaust plume behavior on an operating airport.[135,136] As such, these coefficients represent the best available data for modeling aircraft engine exhaust plume dispersion.

Source Type

The commenter indicates that the source type being used (area sources in the case of aircraft) is a "gross approximation of the actual configuration of the emission source," and thus introduces a great amount of uncertainty. Uncertainty is inherently associated with mathematical/computer modeling of any physical phenomena, because it is often difficult to develop a mathematical model or computer algorithm that is sufficiently sophisticated to address every nuance of the physical world. This uncertainty is acknowledged in the Draft EIR, Appendix C, Section 6 - Uncertainties. As noted above, the dispersion coefficients, as well as initial source height for aircraft on taxiways and runways were developed from measurements of aircraft plume behavior at an operating commercial airport. Also, it should be noted that the modeling methods used in the analysis were presented to the SCAQMD[137,138] and California Air Resources Board (ARB)[139,140] for review and comment, and comments from these agencies were incorporated into the final Protocol (Draft EIR, Appendix C, Attachment A– Final: Protocol for Conducting an Air Quality Impact Analysis and Human Health Risk Assessment for the Long Beach Airport).

Based on the responses above, the modeling process utilized for this analysis appropriately and adequately addresses the balance between prudent conservatism and wholesale erroneous overestimation while maintaining a level of accuracy that reflects the state of the art. Ambient concentrations were predicted by adding the modeled incremental scenario-related change in ambient concentrations to the existing ambient monitored concentrations or estimated future

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[133] Personal communication, teleconference with SCAQMD (S. Smith, T. Chico) and CDM (J. Pehrson, G. Pelletier, K. Tzou), August 30, 2005.

[134] Personal communication, email from SCAQMD (T. Chico) to CDM (J. Pehrson) on September 2, 2005.

[135] Wayson, R.L., G.G. Fleming, B. Kim, W.L. Eberhard, W.A. Brewer, J. Draper, J. Pehrson, and R. Johnson, 2003. "The Use of LIDAR to Characterize Aircraft Exhaust Plumes," Paper No. 69965, Presented at the 96th Annual Air & Waste Management Association's Conference & Exhibition, San Diego, CA (June 22-26).

[136] Wayson, R.L., G.G. Fleming, B. Kim, W.L. Eberhard, and W.A. Brewer. 2004 (February). *Final Report: The Use of LIDAR to Characterize Aircraft Initial Plume Characteristics.* (FAA-AEE-04-01/DTS-34-FA34T-LR3). Washington D.C.:FAA, Office of Environment and Energy.

[137] Meeting with SCAQMD, June 22, 2005, regarding LGB Terminal Improvement Project – Draft Modeling Protocol dated May 20, 2005.

[138] Meeting with SCAQMD, August 30, 2005, regarding LGB Terminal Improvement Project – Draft Modeling Protocol dated August 9, 2005.

[139] Personal communication, conference call with ARB (G. Honcoop, G. Harris, L. Hunsacker, J. Lerner, T. Servin), BonTerra (K. Brady, C. Krebs), and CDM (J. Pehrson, K. Tzou), June 7, 2005, regarding LGB Terminal Improvement Project – Draft Modeling Protocol dated May 20, 2005.

[140] Personal communication, telephone conversation with ARB (G. Honcoop) and CDM (J. Pehrson), June 23, 2005, regarding Aircraft Speciation Profiles.

background concentrations, as described in Section 3.2 of the Draft EIR (page 3.2-6) and Appendix C (Section 4.1, page 4-1). Although the long-term trend in monitored air quality indicates that ambient pollutant concentrations are decreasing over time, it was assumed for this EIR that the monitored 2005 pollutant concentrations would be the same as the background pollutant concentrations in 2020. Ten-year trends in ambient pollutant measurements are presented in Section 3.2 of the Draft EIR (Table 3.2-4, page 3.2-22) and in Appendix C (Table 2-3, page 2-11). The estimated future concentrations in the airport vicinity are shown in Section 3.2 of the Draft EIR (Table 3.2-13, page 3.2-35) and Appendix C (Table 4-1, page 4-8; and Table 4-7, page 4-15).

Response 3

The commenter implies that disparities exist between the measured concentrations (assumed to mean measured black carbon [BC] concentrations in "Summary Report – Community Ambient Air Monitoring: Black Carbon as a Surrogate for Diesel Exhaust Concentrations in Long Beach, California,"[141] herein referred to as the AMS Report) and modeled concentrations, then questions how the "potential for increased risk to the community from increased airport operations" will be addressed.

The commenter implies that measured data are inherently more reliable than modeled data, and therefore, more believable as a basis for decision-making. However, measured data are also subject to uncertainty, which is why the EPA established a rigorous quality assurance/quality control program for air monitoring systems. In point of fact, the commenter has provided no quality assurance or quality control information in the AMS Report to support the accuracy, precision, representativeness, or comparability of the BC measurements gathered in the vicinity of the airport. As noted in Response to Comment 179-2, uncertainties with the modeling analysis in the Draft EIR are discussed in Appendix C, Section 6 – Uncertainties.

The commenter also implies that the analysis of existing risk in the Draft EIR is based on modeled concentrations from airport sources. However, the discussion of existing health risk in the Draft EIR (page 3.2-26 and Appendix C, Section 2.2.2.3–Existing Health Risk in the Surrounding Area) is quantified based on the results of the MATES II study, a monitoring study and updated in the Draft EIR with recent air toxic monitoring data in the vicinity of the airport. In that discussion of existing risk, the Draft EIR acknowledges that the majority of the risk is attributable to mobile sources, including those at the Airport, among many others.

The commenter assumes that: (1) the AMS Report demonstrates a relationship between the measured BC concentrations and aircraft operations and (2) the correlation between BC, elemental carbon (EC), and diesel exhaust particulate matter (DPM) developed by Fruin, et al[142] is applicable to aircraft engine exhaust. In addition, the commenter claims that: (1) concentrations presented in the Draft EIR were based on estimates from other modeling, not measurement data and (2) the North Long Beach monitoring station does not monitor $PM_{2.5}$.

Starting with the latter claims first, the north Long Beach Monitoring station (SCAQMD Station 072, ARB Station 70072) has been measuring $PM_{2.5}$ since 1999. Annual average and peak daily $PM_{2.5}$ measurements at north Long Beach from 1999 through 2004 are presented in Section 3.2 of the Draft EIR (Table 3.2-4, page 3.2-22) and in Appendix C (Table 2-3, page 2-11). The peak annual average and peak daily average $PM_{2.5}$ and PM_{10} measurements between 2002 and 2004

[141] Winegar, E.D., PhD. 2006 (January). "Summary Report – Community Ambient Air Monitoring: Black Carbon as a Surrogate for Diesel Exhaust Concentrations in Long Beach, California," Fair Oaks, CA: AMS.

[142] Fruin, S.A., A.M. Winer, and C.E. Rodes. 2004. "Black carbon concentrations in California vehicles and estimation of in-vehicle diesel exhaust particulate matter exposures," *Atmospheric Environment.* 38:4123-4133.

were used in the Draft EIR to represent existing $PM_{2.5}$ and PM_{10} air quality (Table 3.2-6, page 3.2-24; and Appendix C, Table 2-5, page 2-14). Therefore, representative measurements of $PM_{2.5}$ are used in the air quality impact analysis. Since the EPA and ARB have promulgated ambient air quality standards for $PM_{2.5}$ and PM_{10}, both $PM_{2.5}$ and PM_{10} are the appropriate particulate matter indicator parameters to be used in the analysis. In the Human Health Risk Assessment, airport DPM emissions are the PM_{10} emissions from airport-related diesel engines (primarily in ground support equipment and cargo trucks).

With regard to the AMS Report, no well-defined relationship exists between the measured BC concentrations and aircraft operations, as detailed below:

- Reviewing the monthly wind roses presented in the AMS Report (Figures 17, 18, 19, and 20), it is clear that the prevailing wind was blowing from the west for each month of the study. Other prominent wind directions shown in these wind roses are from the northeast quadrant (with the secondary peak coming from the northeast in September and October; and from the north-northeast in November and December). For all of these wind directions, the "source-impacted" BC monitoring sites are upwind from the airport, indicating that the measured concentrations are likely coming from sources other than the airport. The wind roses suggest that the "source-impacted" BC monitoring sites are downwind from the airport no more than 15 percent of the four-month monitoring period.

- Reviewing the diurnal wind speed and direction patterns presented in the AMS Report (Figures 21 and 22), the averaged early morning wind speed and wind direction appears to show a low-speed wind blowing from the airport to the "source-impacted" BC monitoring sites through the early morning until about 9:00 to 10:00 a.m. (PST). In particular, the 7:00 to 8:00 a.m. hour indicates an average wind speed between 2.5 and 3 mph and a wind direction of approximately 145 degrees (from the southeast). However, inspection of the North Long Beach hourly average wind directions[143] between 7:00 to 8:00 a.m. for the months of September through December 2005 indicates that the wind comes from the southeast quadrant less than 18 percent of the time. For this same time period, the wind is from the northeast quadrant over 52 percent of the time and from the southwest and northwest quadrants approximately 30 percent of the time. Therefore, the "source-impacted" BC monitoring sites are upwind or crosswind of the airport for the hour of peak impact (per AMS Report, Figures 13 and 15) for 82 percent of the time; again indicating other sources are the major contributors to the monitored results, particularly the broad morning BC concentration peak. Clearly, the diurnal wind patterns presented in Figures 21 and 22 of the AMS Report, which are implied to represent typical wind patterns near the airport, are not consistent with the actual wind data for the four-month monitoring period, as summarized in the wind roses of Figures 17 through 20.

- Figure 15 of the AMS Report claims to show a correlation of Long Beach Airport flights with BC measurements ("Airport BC" measurements in Figure 15 refer to data collected at the corner of Cover Street and Pixie Avenue). However, it is clear from the figure that BC values increase substantially from midnight until 7:00 a.m., even though no aircraft depart during this time period (This rise in BC values can also be seen in all of the "source-impacted" sites shown on Figure 13.). It is also apparent that the 5-minute averaged BC values in Figure 15 do not track very well with the aircraft operations between 7:00 and 9:00 a.m. For example, a fairly long period of low to zero aircraft activity occurs between about 7:30 to 8:00 a.m., yet the BC values remain high until after

[143] Personal communication, email from SCAQMD (K. Durkee) to CDM (J. Pehrson), February 15, 2006, Re: Hourly Measurements – North Long Beach – September 2005 through December 2005.

about 8:30 a.m. After about 9:00 a.m., the wind direction shifts to the west, wind speeds increase, and no correlation with BC values and aircraft operations is readily apparent throughout the remaining hours of the day.

- The "source-impacted" BC measurements presented in Figures 2, 3, 4, 6, and 7 cannot be compared directly with the "background" BC measurements presented in Figures 8-12 because the averaging times displayed are different. The "source-impacted" data is presented in five-minute averages, while any short-term peaks in the "background" sites have been smoothed into one-hour averages. Due to the typical log-normal distribution of air pollutant concentrations, longer averaging times lead to lower average concentrations.

- Table 1 of the AMS Report provides a summary of BC measurements for each site. Although not stated in the report, it is assumed that these are 24-hour averaged values since these values are compared to 24-hour averaged values collected at six other cities across the U.S., as presented in Babich, et al.[144] The AMS Report compares the mean of the eight (8) Long Beach BC monitoring sites (combined "source-impacted" and "background") with the mean found for six other U.S. cities indicating that the Long Beach 8-site mean, 2.15 micrograms per cubic meter (µg/m3), is 44 percent higher than that for the other cities. It should be noted that the means of the 24-hour averaged BC measurements for the six other cities presented in Babich, et al.[145] ranged from 0.8 to 3.1 µg/m3, with a six-city mean value of 1.49 µg/m3. All of the average BC concentrations for the sites studied in the AMS Report fall within the range of mean BC concentrations reported in Babich, et al., except the "background" site on Olive Street, whose average value was above the upper range of values for the six other cities. It should also be noted that of the three sites in the AMS Report with 24-hour averaged concentrations higher than the 8-site mean, two are "background" sites (Olive and LaLinda), and the third site (LaDera) is the farthest "source-impacted" site from the airport and the closest "source-impacted" site to the I-710 Freeway. The BC data in the AMS Report demonstrates that all but one of the 24-hour averaged BC values in Long Beach fall in the range of values reported for six other cities across the U.S., and the highest BC readings in Long Beach come from the sites closest to the I-710 Freeway. The AMS Report does not demonstrate that BC concentrations are correlated with airport operations.

  - The AMS Report appears to be trying to correlate DPM concentrations with aircraft activity by converting the BC readings to estimated DPM concentrations using a BC-to-DPM relationship developed in Fruin, et al.[146,147] This is not appropriate, primarily because aircraft exhaust is different

[144] Babich, P., M. Davey, G. Allen, and P. Koutrakis. 2000. "Method comparisons for particulate nitrate, elemental carbon, and $PM_{2.5}$ mass in seven cities." *Journal of the Air and Waste Management Association.* 50:1095-1105.

[145] Babich, P., M. Davey, G. Allen, and P. Koutrakis. 2000. "Method comparisons for particulate nitrate, elemental carbon, and PM2.5 mass in seven cities." *Journal of the Air and Waste Management Association* 50: p.1100.

[146] Fruin, S.A., A.M. Winer, and C.E. Rodes. 2004. "Black carbon concentrations in California vehicles and estimation of in-vehicle diesel exhaust particulate matter exposures." *Atmospheric Environment.* 38:4123-4133.

[147] Fruin, et al. summarize the findings of other researchers to support their development of a range of conversion factors to relate BC to DPM. As acknowledged in the AMS Report, there is no generally accepted procedure to convert measured BC concentration to DPM concentration. Fruin, et al. cite four literature references to studies published by other authors of concurrent ambient measurements of BC and elemental carbon (EC) and provide the regression equations derived from those studies. Fruin, et al. then cite a literature reference to a study of a single 1995 diesel vehicle engine with concurrent exhaust measurements of EC and DPM under a variety of engine loads. By combining the BC/EC ratio with the EC/DPM ratio in a root mean square calculation, Fruin, et al. derive a DPM/BC ratio in the range of 1.8 to 5.6. A few points should be noted about the development of this DPM/BC ratio range. First, Fruin, et al. note that the relationship between BC and EC can depend on the optical

> from diesel engine exhaust, so much so that the EPA does not recommend applying health risk estimates based on diesel exhaust exposure to aircraft exhaust exposure.[148] (See also Response to Comment 2).

It is not clear that any disparities exist between the measured BC data collected in the AMS Report and the measured $PM_{2.5}$ data collected at the North Long Beach monitoring station, or the modeled $PM_{2.5}$ concentrations presented in the Draft EIR. The BC measurements indicate that BC concentrations in Long Beach are not substantially different from those in other U.S. cities. The BC measurements and the wind speed, wind direction, and $PM_{2.5}$ measurements collected at the North Long Beach monitoring station indicate that major contributors to particulate matter in Long Beach are sources other than the airport. Since the modeled concentrations presented in the Draft EIR are from airport sources only in the future (2011 and 2020), it is not surprising that the modeled values do not appear to predict the existing measured values.

The commenter's emphasis on measuring the existing risk misses the point of the CEQA analysis, namely, to identify whether the Proposed Project, if implemented, would result in unacceptable incremental risks (i.e., risks that exceed the thresholds of significance identified in the Draft EIR). Results of the Human Health Risk Assessment, presented in the Draft EIR, Section 3.2 (Tables 3.2-15 through 3.2-20, pages 3.2-38 through 3.2-42) and Appendix C, Section 5, demonstrate that neither the incremental cancer risk threshold nor the incremental health index threshold would be exceeded.

Finally, with regard to the potential increase in risk from airport operations, the City has committed to a number of mitigation measures (as presented in the Draft EIR, Section 3.2.3 – Mitigation Program, pages 3.2-50–3.2-58), including the incorporation of electric charging stations and infrastructure in the air carrier ramp design to support operation of electric ground support equipment (GSE) and other on-airport vehicles. These charging stations will allow the conversion of diesel and gasoline GSE to electric power, reducing air quality impacts from the major source of DPM emissions at the airport.

Response 4

As noted by the commenter, an analysis of ultrafine particulate matter is not a current regulatory requirement. No separate ambient air quality standards exist for ultrafine particulate matter beyond the national and California standards for particulate matter with aerodynamic diameters less than or equal to 10 micrometers (PM_{10}) and 2.5 micrometers ($PM_{2.5}$). Note that these standards were specifically developed to protect the public health with an adequate margin of

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characteristics of the aerosol being measured. While they mention this as rationale for providing a range of literature values, it suggests that the BC to EC relationship is likely spatially and possibly temporally dependent. Therefore, even taking into account the range of values between BC and EC that Fruin, et. Al. present does not necessarily guarantee the accuracy of using BC measurements at a new location and time to predict EC concentrations. Second, the EC measurements made in three of the four cited references of BC and EC studies reflect the EC concentrations of aged urban aerosols, whereas the EC measurements made in the single engine study reflect the EC concentrations of fresh diesel exhaust. Therefore, without further evaluation of the literature, it appears possible that the EC measurements made in the various cited references may or may not be directly comparable. Third, Fruin, et al. provide very limited information to describe the relationships between EC and DPM for the large range of types, sizes, and uses of diesel engines that likely exist in a dense urban environment such as southern California. Therefore, at best, based on the references cited by Fruin, et al., measurements of ambient BC concentrations could be used to predict DPM emissions, not ambient concentrations, and only to the extent that a heavy-duty diesel vehicle engine is representative of all sources of DPM in a given location at a given time.

[148] Personal communication, J. Pehrson (CDM) and B. Manning (EPA), February 8, 2006.

safety.[149] In addition, no defined risk factors, beyond those developed for total diesel particulate matter (DPM) and specific toxic metals (e.g., chromium) which may be components of ultrafine particulate matter, have been developed for general ultrafine particulate matter. Comparison of project-related PM_{10} and $PM_{2.5}$ impacts with the health-based ambient air quality standards are presented in the Draft EIR, Section 3.2 and Appendix C, Section 4. Risks associated with DPM and toxic metals are addressed in the Draft EIR, Appendix C, Section 5. Ultrafine particulate matter is ubiquitous in the environment. Primary sources of ultrafine particulate matter include anthropogenic sources, such as fuel combustion (e.g., power plants, vehicles) and industrial processes (e.g., welding), and natural sources (e.g., wild fires, volcanoes, sea spray); secondary sources include atmospheric reactions of gases to form particles (e.g., transformation of nitric oxide to form ammonium nitrate).[150] The City has proposed a number of mitigation measures to reduce impacts from project-related air pollutants, including particulate matter, as discussed in the Draft EIR, Section 3.2.3 – Mitigation. These include several measures to reduce particulate matter impacts from construction equipment (MM-3.2-1, MM-3.2-2, MM-3.2-5, MM3.2-6, and MM-3.2-9) and airport operating mobile sources (MM-3.2-12, MM-3.2-13, MM-3.2-14, and MM3.2-15).

COMMENTER 183 GILBERT CANO
Dated: January 30, 2006

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. CEQA does not require a discussion of how the improvements will be financed. The EIR is intended to address potential physical impacts.

COMMENTER 184 TERRENCE J. BREEN
Dated: Unknown

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 185 SHIRLEY LORETTA RANALDI
Dated: Unknown

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 186 S. L. RANALDI
Dated: Unknown

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

[149] 42 USC 7409 (b)(1).

[150] Wu, Chang-Yu and Pratim Biswas. 2005. "A Summary of the 2005 Critical Review: Nanoparticles and the Environment." *EM: The Magazine for Environmental Managers* June:33–39.

COMMENTER 187 SANDRA THOMPSON
Dated: Unknown

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that the Airport Noise Compatibility Ordinance, which is part of the City Municipal Code, provides a regulatory framework to limit the number of flights at the Airport. Thus far, the increase in the number of flights has been within the limits of the Airport Noise Compatibility Ordinance. To date, the Airport has never fully implemented the minimum number of flights (both commercial and commuter) allowed under the Airport Noise Compatibility Ordinance. The Proposed Project would be designed to serve these minimum flight and passenger levels. As discussed on pages 2-2 and 2-3 of the Draft EIR, the Airport's ability to exceed the minimum flight levels can only occur when certain criteria are met. In order for the number of flights to increase and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late-night operations. This has never been achieved at the Airport. There is no reason to believe that the Airport Noise Compatibility Ordinance will be modified. Furthermore, the FAA reaffirmed the "grandfather" status of the Ordinance under the ANCA. The FAA's recognition of the restrictions on flights at the Airport will continue to restrict the growth at the Airport.

Response 2

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. Military aircraft are exempt from the ordinance and the City of Long Beach cannot regulate military aircraft in any way. A key point to remember is that the addition of flights over the minimum 41 flights allowed by the Airport Noise Compatibility Ordinance can only be allowed if it can be demonstrated that flights can be added without airlines or commuters exceeding their allocated portion of the CNEL noise budget based on the 1989–1990 baseline year. This can only be done if the airlines use quieter aircraft and reduce the number of late-night operations. This has never been achieved at the Airport. Additionally, the provision for the additional flights is not associated with the proposed terminal improvements. This is within the Airport Noise Compatibility Ordinance; therefore, it can be done with or without the Proposed Project.

Response 3

It is unclear to which study the commenter is referring. An economic impact study has not been conducted as part of the EIR process or in conjunction with the Proposed Project. The fiscal considerations of the project are not a topic pursuant to CEQA. The EIR addresses potential physical impacts.

Response 4

Please see Topical Response 3.1.5 regarding the use of monitoring data to establish existing conditions in the vicinity of the Airport and the measurement of black carbon collected by others in the vicinity of the Airport. The City believes that a reasonable description of existing conditions regarding air quality and human health risk are provided in the Draft EIR, as summarized in Section 3.2 and detailed in Appendix C. In addition, the Draft EIR addresses the impacts associated with project construction, operation of the Optimized Flights Scenario, and cumulative impacts.

Response 5

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 188 LOYD V. WILCOX
Dated: Unknown

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

3.6 RESPONSES TO ORAL COMMENTS RECEIVED ON NOVEMBER 29, 2005

COMMENTER 189 BIRGIT DE LA TORRE

Response 1

The health risk assessment was summarized in the Draft EIR in Section 3.2, Air Quality and Human Health Risk Assessment. The complete technical study was included in Appendix C. It should be noted that the Health Risk Assessment specifically considered potential project-related impacts to children. Also, as stated on page 3.5-2 of the Draft EIR,

> Some people are especially sensitive to air pollution emissions and should be given special consideration when evaluating air quality impacts from projects. These people include children, the elderly, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as sensitive receptors. These sensitive receptors (are) discussed in Section 3.2, Air Quality.

Response 2

The environmentally superior alternative is determined based on the whole of the information in the Draft EIR. In determining the environmentally superior alternative for the Long Beach Airport Terminal Improvements Project, the Draft EIR compared the potential environmental impacts associated with each of the alternatives. The basis for the selecting the environmentally superior alternative is discussed in the Draft EIR in Section 4.5, Environmentally Superior Alternative (page 4-8) and in Topical Response 3.1.4 in these Responses to Comments.

Response 3

This comment was answered at the public hearing; however, to expand on this issue, the EIR made a determination of significance for both construction and operational impacts associated with both the Proposed Project and the Optimized Flights Scenario. For the Proposed Project, the construction air quality impacts were determined to be significant. Additionally, long-term air quality impacts were determined to be significant for the Optimized Flights Scenario. The Proposed Project would not have any significant long-term air quality impacts because the flight level for the Proposed Project would be the same as the baseline to which it is compared. The determination of significance is further discussed in Topical Response 3.1.2.

Response 4

As indicated in Response 3, above, the long-term air quality impacts are associated with the Optimized Flights Scenario. See also Topical 3.1.2.

Response 5

JetBlue Airways, the primary commercial carrier at Long Beach Airport, does not currently own any 500-passenger jets, nor do they have orders for any such aircraft. The JetBlue Airways' fleet is comprised of the A320 (156 passenger seats) and the E190 (98 passenger seats) aircraft. In addition, there are physical limitations that would prevent regularly scheduled flights of such large aircraft at the Airport due to weight and size. The runways and taxiways are laid out for a maximum of Group 4 aircraft that is aircraft with wingspans up to, but not including, 171 feet. This means that the taxiways and runway widths; shoulders and pavement fillets; airfield lighting; and signage are designed for Group 4 aircraft or smaller. Additionally, taxiway turning radii are based on Group 4 aircraft or smaller. The size of aircraft to which the commenter is referring would be in a Group 5 or Group 6. Extensive and costly modifications to provide the required structural strength, pavement widths, and turning radii would be required airport-wide. This is especially true where the tunnels extend under Runway 30 where strengthening would be necessary to accommodate the weight requirements of the larger aircraft. None of these improvements have been considered as part of the Proposed Project, nor does the City have any plans to pursue such improvements. No air carrier has proposed or indicated an interest in using these types of aircraft at the Airport. To assume aircraft other than the type currently, or reasonably forecast to be, in their fleet would be speculative.

Response 6

As the commenter notes, shuttles can be effective in reducing vehicle-related air quality impacts at airports. Private sector providers typically offer shuttle services in areas where they make sense from an economic standpoint. As indicated on the Airport's website, www.longbeach.gov, several companies currently offer shuttle services to and from Long Beach Airport. In addition, Long Beach Transit offers services to the Airport. Use of these services is based on people's personal choices and influenced by a number of factors. Neither the City nor the Airport can mandate shuttle use.

COMMENTER 190 LUANN BYNUM

Response 7

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 191 MICHAEL BAUCH

Response 8

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 9

Your concern regarding a perceived increase in late night flights is noted. The Proposed Project would not directly or indirectly reduce or increase the number of late night flights.

Response 10

Your concerns regarding the proposed land use compatibility program are noted. The Draft EIR recommended the development of the program for homes within the 65 CNEL or schools within the 60 CNEL.

Response 11

Your concerns regarding the permanency of the Airport Noise Compatibility Ordinance are noted. At this time, there are no indications that modifications will be made to the Airport Noise Compatibility Ordinance. Should a proposal to add flights in excess of what is allowed under the Airport Noise Compatibility Ordinance occur, separate environmental documentation pursuant to the CEQA would be required. As part of that document, the impacts associated with the additional flights would need to be examined. This EIR does not address impacts associated with an Ordinance amendment, and therefore would not be considered adequate for such an action. For this EIR to consider conditions without the Airport Noise Compatibility Ordinance would be speculative. Addressing modifications to the Ordinance would not be relevant to the project at hand, nor would it serve the interest of the community which wants the Ordinance maintained.

COMMENTER 192 STEVEN CONLEY

Response 12

Your comment is noted. The potential increased impacts associated with having less than 14 parking spaces is discussed on page 4-9 of the Draft EIR in the discussion of the environmentally superior alternative. Specifically, the Draft EIR states,

> Another consideration when selecting the environmentally superior alternative is the consideration on the number of aircraft parking positions. The Proposed Project was evaluated with 14 parking positions. The project description identifies between 12 and 14 parking positions. However, the reduction to 12 parking positions would potentially result in an increase in air quality emissions. Based on Department of Transportation data, approximately 15 percent of the arrivals at the Airport are late. When aircraft arrive late during peak hours there would not be an available parking position at the terminal. As a result, the aircraft would need to wait until a position becomes available. In those cases the overall air emissions would increase from aircraft idling. The Proposed Project does not result in substantially greater impacts than the other build alternatives. Therefore, the Proposed Project is the environmentally superior alternative.

COMMENTER 193 SUSAN RUSNAK, ON BEHALF OF THE LONG BEACH ECONOMIC DEVELOPMENT COMMISSION

Response 13

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 194 LINDA SOPO

Response 14

The results of the Human Health Risk Assessment were incorporated into the Draft EIR, Section 3.2, Air Quality and Human Health Risk Assessment. The technical report in its entirety is presented in Appendix C.

The off-Airport receptors assessed in the human health risk assessment include child residents, adult residents, school children, and workers. The incremental risks for these receptors are presented in Table 3.2-15 and the incremental hazards are presented in Table 3.2-18 of the Draft EIR. As described in Sections 5.3 and 5.4 of the technical report in Appendix C, the child resident included in the assessment is a young child from birth to nine years of age. The school child that is evaluated is an elementary school child attending a school in the area for seven years. In addition, an adult-plus-child receptor was evaluated. The adult-plus-child receptor evaluates a child who lives in the area from birth to 9, and then continues to live in the area for another 61 years.

The commenter's statement that a 70-year old man is evaluated is not entirely correct. The receptor evaluated is an adult who resides in the vicinity of the Airport for 70 years.

With regards to the study referred to by the commenter, health risk assessments cannot be used to link individual illnesses (such as asthma and cancer) to past chemical exposures, nor can health risk assessments and epidemiological studies prove that a specific toxic substance caused an individual's illness (California EPA, 2001). It would be difficult to substantiate potential health risks estimated by risk assessment for an airport through epidemiological studies because of the typical lack of exposure information about the study population. It is necessary to understand all of the factors that may lead to an adverse effect. The population evaluated in the epidemiological study may have lived in the area for many years or just a few years. They may have had exposure to chemicals from other sources, such as work or emissions from other sources (i.e., automobile exhaust). They may have engaged in behavior such as smoking, drinking, overeating, or other lifestyle habits that increased their risk of adverse health effect. An observation of adverse effects would not necessarily correlate with exposure to airport emissions.

Although subject to a number of uncertainties common to epidemiological studies, these types of studies have been performed at other airports in large metropolitan areas to determine whether individuals living near airports have a greater incidence of disease than populations living in other areas. For example, the Illinois Department of Public Health (IDPH 2001) examined actual cancer incidence observed in communities near Chicago's O'Hare and Midway airports between 1987 and 1997. Results of the study showed no elevation in cancer incidence for all cancers combined among whites, non-whites, males, and females living near the airports. Trend analysis did not indicate a higher cancer burden for populations near the airports as compared to populations living farther away. This observation held true for all cancers combined as well as site-specific cancers. A study conducted by the Washington State Department of Health (1999) provided an examination of actual cancer cases near Washington State's SeaTac airport. Results of the study indicated that incidence of cancer was not statistically higher for the SeaTac area. Determining the cause of a current health problem or symptom is difficult. Many factors may influence if and how severe air pollution affects human health. For example, respiratory problems and cancer may be a result of workplace exposure, environmental exposure, or some other factor (e.g., personal habits such as smoking cigarettes). Further, air quality in the South Coast Air basin is degraded by TACs from a variety of sources, of which traffic is the largest and most important.

References:

California EPA. 2001. *A Guide to Health Risk Assessment.* Office of Environmental Health Hazard Assessment. Sacramento: CalEPA.

Illinois Department of Public Health (IDPH). 2001 (November). *Cancer Incidence in Populations Living Near Chicago O'Hare and Midway Airports, Illinois. 1987 - 1997.* Chicago: Office of Epidemiology and Health Systems Development.

Washington State Department of Health. 1999 (February). *Cancer Rates in the Proximity of SeaTac International Airport* (Questions 1 and 2 of the August 1998 Work Plan). Seattle: Office of Epidemiology.

Response 15

Typically airport noise attenuation is funded by airport users, grants, passenger facility charges (PFC), and airport operating revenue.

Response 16

Your comment is noted. It is not suggested in the Draft EIR nor is there any credible evidence that the school children at Minnie Gant Elementary School would have to stay in the classroom. Children's playgrounds have high ambient noise levels associated with their intended activity. Aircraft noise levels will not increase over today's levels. If the Optimized Flights Scenario is realized, it will be realized only if the single event noise levels are reduced from today's fleet.

Response 17

Your comment is noted. The Proposed Project would not necessitate a change in practice at the Airport. If currently there are a large number of people being dropped off at the Airport to avoid parking charges this would have been reflected in the study done which was based on actual trips at Long Beach Airport. Similarly, the parking demand was based on the *Parking Adequacy Analysis Study* conducted by International Parking Design for the Airport in 2001. The report concluded that 2.75 parking spaces would be needed for each 1,000 annual enplanements.

COMMENTER 195 LAURA SELLMER

Response 18

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 19

Your comment is noted. By way of clarification, the environmentally superior alternative (also, the "Proposed Project") represents a smaller terminal expansion than that which was recommended in the *Facility Requirements Analysis, Long Beach Municipal Airport* (HNTB, 2004). As stated on page 2-7 of the Draft EIR, the City Council, after reviewing the material from the Airport Advisory Commission and the public, defined the scope of the project and alternatives to be evaluated in the EIR. Through this process, the maximum terminal size was

reduced from 133,000 square feet (HNTB recommendation) to 102,000 square feet (City Council recommendation).

The Guiding Principals, which were discussed, pertained to maintaining the historic integrity of the Terminal Building. The commitment to building all improvements to LEED standards is provided in the project description (see page 2-11 of the Draft EIR).

Response 20

It is unclear to which study the commenter is referring. An economic impact study has not been conducted as part of the EIR process or in conjunction with the Proposed Project. The fiscal considerations of the project are not a topic pursuant to CEQA. The EIR addresses potential physical impacts.

Response 21

Please see Topical Response 3.1.5 pertaining to the air quality and human health risk assessment methodology.

COMMENTER 196 DANIEL VILLANI

Response 22

Please see Topical Response 3.1.2 pertaining to the determination of significance.

Response 23

Your comment regarding the facilities improvements is correct. Every effort was made to make this clear in the Draft EIR. The project description in the Draft EIR (pages 2-7–2-15) identifies the Proposed Project as being limited to facilities improvements. In the discussion of operational considerations (page 2-17 of the Draft EIR), it states,

> Though not a component of the Proposed Project, the EIR also address the impacts associated with the possible increase in the number of flights over current conditions. The project is not proposing any modifications to the Airport Noise Compatibility Ordinance or other actions that would directly or indirectly affect the number of aircraft operations at the Airport.

It further goes on to say, “As previously indicated, in order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations.” To avoid confusion on the impacts associated with the Proposed Project and those associated with the Optimized Flights Scenario, each topical area in the Draft EIR was broken out into three categories: Construction Impacts, Proposed Project Impacts, and Additional Effects Related to Optimized Flights.

Response 24

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 197 JOE SOPO

Response 25

The results of the Human Health Risk Assessment were incorporated into the Draft EIR, Section 3.2, Air Quality and Human Health Risk Assessment. The technical report in its entirety is presented in Appendix C. This health risk assessment evaluates the risks and hazards for the No Project and the Optimized Flights alternatives in 2011 and 2020.

Please see Topical Response 3.1.5 – Methodology for the Air Quality Impact Analysis and Human Health Risk Assessment – regarding air sampling data near the Airport and measurements collected by others near the airport.

Response 26

Your comment is noted. Please see Topical Response 3.1.2 pertaining to the determination of significance.

Response 27

The EIR recommends the adoption of a Land Use Compatibility Program as a method of reducing impacts to homes within the 65 CNEL contour and schools within the 60 CNEL contour. As indicated in the Draft EIR (page 3.6-26), these impacts are not a result of the Proposed Project. At this point, the details of the program are not known. If the mitigation measure is adopted by the City Council, the program would be developed within 24 months of certification of the EIR.

Response 28

State and local standards would allow the construction of a school within the 60 CNEL contour. As discussed in the Draft EIR (page 3.6-9), the General Plan references the State California Airport Noise Regulations and the 65 CNEL as the noise impact boundary for the Airport.

Response 29

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 198 JEFF HUSO

Response 30

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. The Draft EIR has been prepared pursuant to the California Environmental Quality Act and addresses the environmental impacts associated with the implementation of the proposed facility improvements.

Response 31

The Airport Noise Compatibility Ordinance, not the size of the facilities, determines the number of flights allowed at the Airport. The increase in the number of aircraft parking spaces is intended to reduce the instances of aircraft having to idle while waiting for a gate. The idling of aircraft increases the air emissions at the Airport. A basic premise of the Proposed Project is that there would be no modifications to the Airport Noise Compatibility Ordinance. As discussed

throughout the Draft EIR, the Proposed Project would not directly or indirectly affect the number of flights at the Airport. The Proposed Project does not propose any modifications to the adopted Airport Noise Compatibility Ordinance. In order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations.

Response 32

The Airport Advisory Commission has not given direction to airport management to maximize the number of flights at the Airport.. Additionally, it should be noted that the City Council, not the Airport Advisory Committee approved the environmental consultant team.

Response 33

Though the Proposed Project would not result in any increased noise levels, the EIR recommends the adoption of a Land Use Compatibility Program as a method of reducing impacts to homes within the 65 CNEL contour. As indicated in the Draft EIR (page 3.6-26), these impacts are not as a result of the Proposed Project. At this point, the details of the program are not known. Providing an avigation easement is commonly required when sound attenuation is provided to the property owner. However, whether or not avigation easement would be a required condition of any such program and, if so the terms of the easement, would be determined at the time the Council approves the program. If the mitigation measure is adopted by the City Council, the program would be developed within 24 months of certification of the EIR.

Response 34

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 199 DANIEL FRELEAUX

Response 35

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 200 JANE NADEAU

Response 36

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Refer to Topical Response 3.1.5 regarding airport deposition studies and the Health Risk Assessment.

Regarding schools, as described in Sections 5.3 and 5.4 of the technical report in Appendix C, a school child is one of the receptors that is assessed in the risk assessment. The incremental risks for this receptor are presented in Table 3.2-15 and the incremental hazards are presented in Table 3.2-18 of the Draft EIR.

Health risk assessments cannot be used to link individual illnesses (such as asthma and cancer) to past chemical exposures, nor can health risk assessments and epidemiological studies prove that a specific toxic substance caused an individual's illness (California EPA, 2001). It would be difficult to substantiate potential health risks estimated by risk assessment for an airport through epidemiological studies because of the typical lack of exposure information about the study population. It is necessary to understand all of the factors that may lead to an adverse effect. The population evaluated in the epidemiological study may have lived in the area for many years or just a few years. They may have had exposure to chemicals from other sources, such as work or emissions from other sources (i.e., automobile exhaust). They may have engaged in behavior such as smoking, drinking, overeating, or other lifestyle habits that increased their risk of adverse health effect. An observation of adverse effects would not necessarily correlate with exposure to airport emissions.

Although subject to a number of uncertainties common to epidemiological studies, these types of studies have been performed at other airports in large metropolitan areas to determine whether individuals living near airports have a greater incidence of disease than populations living in other areas. For example, the Illinois Department of Public Health (IDPH, 2001) examined actual cancer incidence observed in communities near Chicago's O'Hare and Midway airports between 1987 and 1997. Results of the study showed no elevation in cancer incidence for all cancers combined among whites, non-whites, males, and females living near the airports. Trend analysis did not indicate a higher cancer burden for populations near the airports as compared to populations living farther away. This observation held true for all cancers combined as well as site-specific cancers. A study conducted by the Washington State Department of Health (1999) provided an examination of actual cancer cases near Washington State's SeaTac airport. Results of the study indicated that incidence of cancer were not statistically higher for the SeaTac area. Determining the cause of a current health problem or symptom is difficult. Many factors may influence if and how severely air pollution affects human health. For example, respiratory problems and cancer may be a result of workplace exposure, environmental exposure, or some other factor (e.g., personal habits such as smoking cigarettes). Further, air quality in the South Coast Air basin is degraded by TACs from a variety of sources, of which traffic is the largest and most important.

Quantitative analysis of any cumulative impacts of future projects at the Ports of LA and Long Beach and 710 Freeway expansion are beyond the scope of this Draft EIR. The City has no way of knowing if and when such projects will be undertaken and what the timing and scope of the projects, if approved, might be. Any such projects conducted in the future would be subject to CEQA and would have to account for cumulative impacts, including those associated with airport improvement. Only at such time would sufficient information be available to assess potential cumulative health risks.

References:

California EPA. 2001. *A Guide to Health Risk Assessment.* Sacramento: CalEPA, Office of Environmental Health Hazard Assessment.

Illinois Department of Public Health (IDPH). 2001 (November). *Cancer Incidence in Populations Living Near Chicago O'Hare and Midway Airports, Illinois. 1987 - 1997.* Chicago: IDPH, Office of Epidemiology and Health Systems Development.

Washington State Department of Health. 1999 (February). *Cancer Rates in the Proximity of SeaTac International Airport* (Questions 1 and 2 of the August 1998 Work Plan). Seattle: Washington Department of Health, Office of Epidemiology.

COMMENTER 201 JULIE LEISHMAN

Response 37

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. The air quality and human health risk assessment were presented in Section 3.2 of the Draft EIR. This is the section that evaluated the potential for increased cancer risk associated with the Proposed Project (facility improvements only) and with Optimized Flights Scenario. The full study is contained in Technical Appendix C.

COMMENTER 202 THOMAS BROWN

Response 38

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 203 KIMBALL FUASICK

Response 39

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 204 ROY HANSON

Response 40

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 205 JEFF HUSO

Response 41

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. It should be noted that providing the additional parking spaces is not for additional flights in excess of the minimum. The Airport Noise Compatibility Ordinance controls the number of flights. By providing more aircraft parking spaces, the aircraft engines would not need to be idling while waiting for a gate. This would reduce the air emissions generated at the Airport.

COMMENTER 206 RACHEL BAUCH

Response 42

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. It should be noted that the Propose Project does not propose any increase in the number of flights, only facility improvements which would generate air quality impacts during construction, but would not have long-term air quality impacts.

Response 43

The EIR did evaluate a cumulative impact scenario for traffic. Section 3.8, Transportation and Circulation, contained a Year 2020 Evaluation of the Optimized Flights Scenario. This evaluation assumed regional traffic growth in the area, and also includes other known related projects in the area such as Douglas Park. The freeway analysis was conducted using methodology specified by the County Congestion Management Program (CMP). The analysis showed that there would be no significant impact to the freeway system in 2013, based upon County CMP guidelines.

Response 44

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

COMMENTER 207 JUDITH WELDON

Response 45

Your comments are noted. This does not pertain to the Proposed Project. The Proposed Project would not alter the flight patterns or other operational characteristics at the Airport.

Response 46

Your comments are noted. However, the JetBlue incident or how aircraft are directed by the FAA tower is not relevant to the project at hand, which proposes facility improvements.

3.7 RESPONSES TO COMMENT CARDS RECEIVED ON NOVEMBER 29, 2005

COMMENTER 208 JANE BARRETT

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. As indicated on page 2-15 of the Draft EIR, a component of the Proposed Project is the addition and/or modifications of signage, lighting, and pavement markings to aid in the safe movement of vehicular and pedestrian traffic through the parking structures, lots, and terminal area. Also proposed are additional and/or modified walkways, some of which would be covered by canopies, on the public side of the terminal building, connecting the parking lots to the Airport Terminal Building.

COMMENTER 209 ED BARWICK

Response 1

A copy of the Draft EIR and appendices was provided to Mr. Barwick during the public review period.

COMMENTER 210 B.J. BERGSTROM

Response 1

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 2

All public notices issued by the City of Long Beach identified the hours for the three public meetings. Both the November 29th and December 5th meetings were noticed for 6:00 p.m. to 9:00 p.m. A community organization distributed a flyer that identified the November 29th meeting as being from 6:30 a.m. to 9:00 a.m. Unfortunately, the City has no control over the information put out by others about the meeting. The City is sorry for any inconvenience that the misinformation may have caused you. Your concern over the speed and volume of the speakers was relayed to them. Hopefully, it was sufficiently corrected at the subsequent meetings. A transcript of all that was said at the meeting is provided as part of this Responses to Comments package.

Response 3

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. Additional flights are not a component of the Proposed Project. As indicated in the project description in the Draft EIR (pages 2-7 through 2-15), the Proposed Project is limited to facilities improvements. The discussion of operational considerations (page 2-17 of the Draft EIR) was included at the request of the City Council. The opportunity for additional flights is currently provided for in the Airport Noise Compatibility Ordinance. In order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations.

Response 4

The Draft EIR did not conclude that only 11 houses are under the landing pattern. The EIR found that there are currently 15 residential units within the 65 to 70 CNEL contour. Though not a component of the Proposed Project, the Draft EIR did evaluate potential impacts associated with an Optimized Flights Scenario. As indicated in the Draft EIR, the opportunity for additional flights is currently provided for in the Airport Noise Compatibility Ordinance. In order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations. With the Optimized Flights Scenario (which provides for 52 daily commercial carrier flights and 25 daily commuter flights), there would be 11 residential units within the 65 to 70 CNEL contour. Though compatible with the Airport Noise Compatibility Ordinance, the noise affecting these homes exceeds applicable standards. Therefore, even though these impacts are not project-related but are an existing condition and would also occur with the full realization of all the flights permitted in the Airport noise budget. Mitigation was recommended to address the impact to all homes within the 65 CNEL contour.

The Minnie Gant School is within the 60 to 65 CNEL contour. Though applicable state and federal standards do not consider noise within the 60 to 65 CNEL contour to be an impact to

schools, the Draft EIR recommended providing noise attenuation to existing schools within the 60 CNEL contour under an abundance of caution and because Congress has authorized the use of federal funds for attenuating existing schools to a level of 60 CNEL.

COMMENTER 211 MARK L. BIXBY

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. The discussion of the potential adverse effects associated with less than 14 parking positions is provided as part of the discussion of the environmentally superior alternative on page 4-9 of the Draft EIR.

COMMENTER 212 BIRGIT DE LA TORRE

Response 1

The environmentally superior alternative is determined based on the whole of the information in the Draft EIR. In determining the environmentally superior alternative for the Long Beach Airport Terminal Improvements Project, the Draft EIR compared the potential environmental impacts associated with each of the alternatives. The basis for selecting the environmentally superior alternative is discussed in the Draft EIR in Section 4.5, Environmentally Superior Alternative (page 4-8) and in Topical Response 3.1.4 in these Responses to Comments.

Response 2

Please see Topical Response 3.1.2 regarding determination of significance.

Response 3

It is not clear to which mitigation measure is being referred which would require policing by the City. It is assumed that the comment is referring to the discussion of public services. As discussed in the Draft EIR Section 3.7, Public Services, security at the Airport is currently provided through the Transportation Security Administration (TSA), the Long Beach Police Department, and the Airport Security Officers. The increased size of the facilities would not adversely impact the ability of these agencies to provide security service at the Airport. Staffing demands would not substantively increase with provision of new facilities. The design of the facilities would implement all applicable City and Uniform Building Codes, as well as TSA requirements. Implementation of these design standards would ensure that the structures meet the requirements for emergency access and fire suppression requirements (i.e., sprinkler systems). Staffing demands are more closely associated with the number of passengers served. Even with the Optimized Flights Scenario where an incremental increase in demand for services may be expected, staffing levels for Airport security as well as police and fire protection would be adjusted, as necessary, to meet changing demands at the Airport.[151] Funding for officers serving the Airport is funded through Airport revenues.

The No Project Alternative (Alternative C) with Optimized Flights, was the only scenario where potential safety impacts were identified. As discussed on page 3.7-13 of the Draft EIR, without facilities improvements the increased demand for passenger and baggage screening associated with the Optimized Flights Scenario would further tax the existing facilities. The ability to conduct security screening and comply with all State and local codes would be taxed. Given the limited

[151] Telephone conversation with David Sansenbach, September 30, 2005.

capacity of the holdrooms (permanent and temporary), passengers could be required to wait outside the building during peak hours or other operational changes would need to be implemented to ensure safety codes can be achieved.

Response 4

JetBlue Airways, the primary commercial carrier at Long Beach Airport, does not currently own any 500-passenger jets, nor do they have orders for any such aircraft. The JetBlue Airways fleet is comprised of the A320 (156 passenger seats) and the E190 (98 passenger seats) aircraft. In addition, there are physical limitations that would prevent use of such large aircraft at the Airport. The runways and taxiways are laid out for a maximum of Group 4 aircraft which is aircraft with wingspans up to, but not including, 171 feet. This means that the taxiways and runway widths; shoulders and pavement fillets; airfield lighting; and signage are designed for Group 4 aircraft or smaller. Additionally, taxiway turning radii are based on Group 4 aircraft or smaller. The size of aircraft to which the commenter is referring would be in a Group 5 or Group 6. Extensive and costly modifications to provide the required structural strength, pavement widths, and turning radii would be required airport-wide. This is especially true where tunnels extend under Runway 30, where strengthening would be necessary to accommodate the weight requirements of the larger aircraft. None of these improvements have been considered as part of the Proposed Project, nor are there any plans by the City to pursue such improvements. No air carrier has proposed or indicated an interest in using these types of aircraft at the Airport.

COMMENTER 213 A. FRELEAUX

Response 1

The Human Health Risk Assessment was incorporated into the Draft EIR, Section 3.2, Air Quality and Human Health Risk Assessment. The technical report in its entirety is presented in Appendix C.

Response 2

As discussed in the Draft EIR Section 3.8, Transportation and Circulation, the traffic generation figures were based on a study of current operations (pages 3.8-2–3.8-3) at the Airport. If currently a large number of people being dropped off at the Airport to avoid parking charges this would have been reflected in the study done which was based on actual trips at Long Beach Airport. Similarly, the parking demand was based on the *Parking Adequacy Analysis Study* conducted by International Parking Design for the Airport in 2001. The report concluded that 2.75 parking spaces would be needed for each 1,000 annual enplanements. For further discussion of traffic generation rates please see Topical Response 3.1.7.

Response 3

Your comment is correct. The Draft EIR (page 3.2-58) stated, “Even with the proposed mitigation measures, construction of the Proposed Project, as well as Alternatives A and B, would result in significant, temporary, unavoidable NO_X and VOC impacts.”

Response 4

The point being made by the commenter is not clear. The Draft EIR concluded that implementation of the mitigation measures would reduce air quality impacts, but not to a level

considered less than significant. Even with the proposed mitigation measures, the Build Alternatives would result in significant, temporary, unavoidable NO_X and VOC impacts.

Operations under the Optimized Flights Scenario would exceed SCAQMD's PM_{10} concentration threshold and exceed SCAQMD's thresholds of significance for CO, VOC, and NO_X. The mitigation program presented in Section 3.2.3 would reduce CO and VOC impacts to a level considered less than significant; however, PM_{10} and NO_X emissions would remain significant.

The mitigation measure recommendation to incorporate the infrastructure to support operation of electric ground support equipment (GSE) would reduce the emissions associated with operations. Though, as the commenter indicates, it "does not solve the issue," it is an improvement over current conditions and it would be a benefit of the Proposed Project Because the Optimized Flights Scenario analyzes air quality impacts associated with airport operations and associated GSE and vehicular traffic activities, these impacts would be expected to occur whether or not the Proposed Project is implemented. As noted above, PM_{10} impacts would be worse without the roadway improvements that would be implemented in conjunction with the Proposed Project.

Response 5

Exhibit 3.6-9 of the Draft EIR depicts the noise contours from 2004. This exhibit was also provided in all the handouts at the public meetings and incorporated into the presentation.

The Draft EIR does acknowledge that the commuter flights have all been allocated. As indicated on page 2-6 of the Draft EIR (Project Description) and reiterated elsewhere throughout the document,

> it was determined that the EIR should assess the impacts associated with the 25 full utilization of the commuter flights that are provided for under the existing terms of the Airport Noise Compatibility Ordinance, even though at the time the NOP was issued and the baseline for this EIR was established there were no commuter operations at the Airport.

Currently, four commuter flights are being offered at the Airport -- one by US Airways (America West) and three by Delta. It is anticipated that full utilization of the remaining 21 commuter slots will occur within the next few years. Therefore, the analysis of the Proposed Project reflects the 41 commercial flights that are currently operating at the Airport, as well as the 25 commuter flights because they are allowed under the Airport Noise Compatibility Ordinance and will likely occur within the foreseeable future.

COMMENTER 214 GEORGE GARCIA

Response 1

It is assumed that the reference to Exhibits 4 through 7 is to the exhibits in the handout at the public meeting. These correspond to Exhibits 3.6-9, 3.6-14, 3.6-16, and 3.6-17 in the Draft EIR. The methodology for developing the noise contours is described on page 3.6-11 of the Draft EIR. Aircraft flight patterns, number of operations, and types of aircraft are used to develop the noise contours. The noise contours do take into account landings and take offs from both directions. CNEL stands for Community Noise Equivalent Level. This is defined in the EIR Glossary (Section 9 of the Draft EIR as: "A noise compatibility level established by California Administrative Code, Title 21, Section 5000. Represents a time-weighted 24-hour average noise level based on the A-weighted decibel. The CNEL includes an additional 5 dB adjustment to

sounds occurring in the evening (7 p.m. to 10 p.m.) and a 10dB adjustment to sound occurring in the late evening and early morning between (10 p.m. and 7 a.m.)." It is further discussed in the DEIR in Section 3.6, Noise.

Response 2

Please see Topical Response 3.1.5.

COMMENTER 215 PATRICIA GERGEN

Response 1

Potential air quality and noise impacts were addressed in the Draft EIR in Sections 3.2 and 3.6, respectively. The full air quality/human health risk assessment and the noise technical studies were included in Technical Appendices C and F, respectively. In addition, please see Topical Response 3.1.5 pertaining to the methodology for the human health risk assessment.

Response 2

The Proposed Project would not result in any additional traffic on the freeway because it would not provide for an increase in the number of flights or passengers. Though not a part of the Proposed Project, the Draft EIR did address the potential impacts associated with the Optimized Flights Scenario (41 daily commercial carrier flights and 25 daily commuter flights).

The Congestion Management Program (CMP) is a mandated program Statewide (section 65084 of the *California Government Code*). The CMP for Los Angeles County directs the procedures for the study of project traffic on the freeway system. The CMP states that traffic must be analyzed at freeway monitoring locations where the project will add 150 or more trips in the a.m. or p.m. weekday peak hours. The two closest CMP monitoring locations are at I-405 at Santa Fe Avenue and I-405 just north of SR-22. Although this project did not meet the 150-vehicle threshold at either location, the analysis was shown for the two nearest freeway monitoring stations. Based upon CMP guidelines, the impact of the Optimized Flights Scenario on the freeway would not be significant.

COMMENTER 216 TAMARA J. HOCK

Response 1

Provisions have always been made to ensure that access to aircraft is in compliance with the Americans with Disabilities Act (ADA). ADA compliance related to access to the aircraft from the tarmac is the responsibility of each airline. However, the City currently provides ADA lifts for use by the airlines and has recently purchased ADA ramps, which will be covered. JetBlue is currently using ADA ramps at the Airport. These ADA lifts and boarding ramps have eliminated the need for airline employees to lift and carry disabled passengers up the boarding stairs.

COMMENTER 217 DOROTHY KISTLER

Response 1

Provisions have always been made to ensure that access to aircraft is in compliance with the Americans with Disabilities Act (ADA). ADA compliance related to access to the aircraft from the tarmac is the responsibility of each airline. However, the City does provide ADA lifts and ramps for use by the airlines.

Response 2

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 218 TERRY SMILEY

Response 1

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 2

The Draft EIR does provide a glossary and a list of acronyms to assist the reader. The comment does not provide sufficient detail on what points were confusing or which conclusions were unsupported; therefore, it is not possible to provide a more detailed response.

COMMENTER 219 DON THOMPSON

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 220 BILL & JUDY WELDON

Response 1

The Proposed Project would not alter the current flight schedules because it is limited to physical facilities improvements only. Nevertheless, the flight schedule is taken into consideration for determining impacts in several of the topical areas. Please refer to Topical Response 3.1.2 regarding the determination of significant impacts.

Response 2

Please see Topical Response 3.1.2 pertaining to determination of significance.

COMMENTER 221 UNKNOWN

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. In addition, please see Topical Response 3.1.1, regarding the relationship of improvements to increased flights.

3.8 RESPONSES TO ORAL COMMENTS RECEIVED ON DECEMBER 03, 2005

COMMENTER 222 TERRY JENSEN

Response 1

The methodology for developing the noise contours is described on page 3.6-11 of the Draft EIR. Aircraft flight patterns, number of operations, and types of aircraft are used to develop the noise contours. The airport does have a dominant flow that is reflected in the shape of the contours. However, the operations that occur when the aircraft depart to the south and operations for other runways are included in the model.

Response 2

As discussed in the Draft EIR Section 3.8, Transportation and Circulation, the Optimized Flights Scenario would cause a demand for additional parking due to the additional numbers of passengers and would result in additional vehicle trips throughout the day. The parking demand was based on the *Parking Adequacy Analysis Study* conducted by International Parking Design for the Airport in 2001. The report concluded that 2.75 parking spaces would be needed for each 1,000 annual enplanements. Without the additional parking, there would be an increase in drop-off trips, causing additional trips to the airport. Therefore, with the additional parking being available, this would actually decrease the number of trips to the airport under the Optimized Flights Scenario.

The traffic study did analyze the effects of having all the cars going to one location to park. The analysis shows there will be more vehicles than today. However, the study showed that there will be fewer vehicles accessing the airport with the on-site parking as compared to not having the on-site parking since there will be less drop-off trips. So even with the additional on-site parking, there will be no impact. The project also contains an extension of the south side of the Donald Douglas Drive loop to exit onto Lakewood Boulevard, which would remove many of the exiting vehicles from the existing Donald Douglas Drive and Lakewood Boulevard intersection.

Response 3

These comments were responded to at the meeting, though in the interest of thoroughness, the contract for the environmental impact report was approved in February 2003, and the terminal design was completed in late summer 2005.

COMMENTER 223 DOUG HAUBERT

Response 4

The commenter is correct, the yellow arrow is pointing to the Special Education Building, and the southern portion of the school district property along Stearn is Bixby Elementary School. No part of the Bixby Elementary School buildings are within the 60 CNEL contour. The commenter's reference to the precision of the line is noted. There is an inherent uncertainty associated with any estimate of what will happen in the future and the noise contours drawn for the Optimized Flights Scenario are no exception. They are a best estimate based on current knowledge.

COMMENTER 224 MARK BIXBY

Response 5

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 225 MALCOLM GREEN

Response 6

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. See Topical Response 3.1.6 for description of nighttime penalties.

Response 7

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 8

The fiscal considerations of the project are not a topic pursuant to CEQA. The EIR addresses potential physical impacts.

COMMENTER 226 JAMES BELL

Response 9

The change in the noise contour's shape is due to fact that for current operations the noise budget is limited by departure noise from the two noisiest aircraft in the air carrier fleet, the MD80 and B727. The aircraft are very noisy on departure. The MD80 is, however, quite quiet on arrival. When the fleet is optimized and the newer aircraft replace the older MD80s and B727s, the departure noise is reduced substantially because the new aircraft are so much quieter on departure. But the arrival noise increases because the aircraft that replace the MD80 are noisier on arrival. The limiting factor for the noise budget becomes arrival noise.

COMMENTER 227 PHYLLIS ORTMAN

Response 10

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 11

The terminal area improvements have been sized to accommodate the projected peak hour passenger level associated with the minimum number of flights allowed under the Airport Noise Compatibility Ordinance. The conceptual design would not allow the construction of a second story and would not be designed to easily accommodate expansion. It is assumed if the number of flights increases, the Terminal Building would have to operate over the design capacity, similar to the current situation. It would result in longer waits for passengers outside the holding rooms and less conveniences to travelers.

Response 12

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 228 THOMAS BROWN

Response 13

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. It should be clarified that the number of passengers is expected to increase as a result of the introduction of the commuter flights that are allowed pursuant to the Airport Noise Compatibility Ordinance, not as a result of the proposed facility improvements.

COMMENTER 229 JANE NADEAU

Response 14

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. Refer to Topical Response 3.1.5 for a discussion of Air Quality and the Human Health Risk Assessment that was conducted for the Proposed Project. Also, it should be noted that neither the Proposed Project nor the Optimized Flights Scenario contemplates any reduction in the “noise bucket”. Refer to Topical Response 3.1.1 for additional information regarding the Airport Noise Compatibility Ordinance.

Response 15

Table 2-5 in the Draft EIR provides a breakdown of square footage or size for each of the project components.

Response 16

As discussed in the Draft EIR Section 3.8, Transportation and Circulation, the traffic generation figures were based on a study of current operations (pages 3.8-2 through 3.8-3) at the Airport. If currently a large number of people are being dropped off at the Airport to avoid parking charges this would have been reflected in the study done which was based on actual trips at Long Beach Airport. Similarly, the parking demand was based on the *Parking Adequacy Analysis Study* conducted by International Parking Design for the Airport in 2001. The report concluded that 2.75 parking spaces would be needed for each 1,000 annual enplanements. For further discussion of traffic generation rates, please see Topical Response 3.1.7.

A drop-off trip requires two separate trips to the airport, each of which enters and leaves the airport; and someone who parks on-site only requires one trip. If sufficient parking were not provided, there would be an increase in the number of passenger drop-off and pick-up trips because some passengers would have no other option but to be dropped off because there would be no place to park. This would increase the overall amount of traffic at the airport.

Response 17

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 230 KEVIN MCACHREN

Response 18

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

3.9 RESPONSES TO COMMENT CARDS RECEIVED ON DECEMBER 03, 2005

COMMENTER 231 K. BERTRAM

Response 1

The fiscal considerations of the project are not a topic pursuant to CEQA. The EIR addresses potential physical impacts.

Response 2

Please see Topical Response 3.1.1 for a discussion of the Airport Noise Compatibility Ordinance and the Airport Noise and Capacity Act.

Response 3

The City has adopted a comprehensive airport noise ordinance that limits single-event noise and sets up a very restrictive noise budget. While the City Council can amend or delete any ordinance, there are very detailed environmental review requirements that would have to be met for the City to take any action that would permit more noise at the Airport than is permitted by the current ordinance. The requirements are the CEQA requirements that dictated the preparation of the Draft EIR, the solicitation of public comment, and the consideration of all possible feasible mitigation measures. In other words, it would take a vote of the majority of City Council members and the completion of a detailed environmental analysis to change the Ordinance. The night hour penalties are described in Topical Response 3.1.6.

COMMENTER 232 MARK BIXBY

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 233 ROSS HORN

Response 1

The Draft EIR presents an extensive noise analysis in Section 3.6. Noise contours in terms of single-event noise are plotted in Exhibits 3.6-10a and 3.6-10b and 3.6-11a and 3.6-11b. Cumulative noise contours are plotted in Exhibit 3.6-9 for existing conditions and Exhibit 3.6-14 for the Optimized Flights Scenario. These data are used in the Draft EIR to assess the impact of aircraft noise. Note that the project does not have a direct impact on noise because the number and type of flights is limited by the airport noise ordinance. The commenter's request for a statement on "what is the lowest planes fly when they begin their landing approach" is not clear. Aircraft begin their landing approach from cruise altitude which is usually above 30,000 feet. As they approach, they lose altitude until they land on the runway. Response 212 to commenter Gary Frahm (Commenter 178) shows the altitude over Bixby Hill, for example.

COMMENTER 234 PHYLLIS ORTMAN

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

3.10 RESPONSES TO ORAL COMMENTS RECEIVED ON DECEMBER 05, 2005

COMMENTER 235 GEORGE LONGABERGER

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 236 JANET RICHARDSON

Response 2

The project description in the Draft EIR distinguishes between aircraft parking spaces and gates. At Long Beach Airport, the term 'gates' is used to identify the doors in the holdrooms that are used for passenger boarding. An aircraft parking space is a location where the aircraft would be able to connect to auxiliary power units or park if a turn around flight is not scheduled (such as for aircraft remaining overnight). The Proposed Project provides for 11 gates and up to 14 aircraft parking spaces.

The number of gates and parking positions was determined based on anticipated flight activity, accepted airport design standards, and decision of the City Council on February 8, 2005 to limit the Proposed Project to a maximum of 11gates. The distribution of flights throughout the day is market driven. Except for provisions of the curfew, the City cannot dictate the time of day when the airlines must schedule their operations.

Airline schedules, and therefore their need for parking positions at time of arrival/departure due to interstate commerce implications, cannot be controlled by airport operators. HNTB, one of the City's terminal facilities consultants, completed a forecast of parking position requirements, based on the 4.2 MAP forecast and the presumption that the current array of service patterns at the Airport (i.e., fairly large component of long haul destinations). This forecast yielded a demand for 14 peak hour aircraft parking positions. To this number was added one additional position to accommodate off-schedule aircraft (typically 15 percent or more of arrivals at Airports are more than 15 minutes behind schedule), and added a further additional position (for a total of 16) to allow for the accommodation of a spare airline aircraft (for example, JetBlue Airways keeps a spare aircraft at Long Beach Airport in order to help mitigate departure delays caused by late arriving aircraft).

This total of 16 aircraft parking positions equals the number of parking positions at the Airport during the 1980s and 1990s when there were 41 daily commercial flights and a limited number of daily commuter flights. Six of these positions were allocated to adjacent tenant Gulfstream Aerospace to accommodate their growth during the late 1990s, at a time when airline activity at the Airport had lessened significantly. The current 10 parking positions, without most of the 25 commuter flights being flown, from time-to-time have filled to capacity because of off-schedule operations. When this occurs, aircraft are required to wait, engines running, on a taxiway until a position opens. As part of the project alternatives, the City Council has

authorized consideration of 12-14 parking positions to address the need of 41 daily commercial and 25 daily commuter flights.

Response 3

Alternative B does provide for an increase in the number of gates from 8 to 11.The parameters for each alternative were established by the City Council on February 8, 2004. At the direction of the City Council, only Alternative C did not increase the number of gates. See the response to your previous comment regarding the rationale for increasing the number of gates.

Response 4

The noise analysis uses the existing operational procedures as the basis for determining projected noise levels. The occasional use of Runway 25R is included in the noise modeling. Because it occurs so infrequently it does not have a significant effect on the contour shape, but it is there. The proposed land use compatibility program would be adopted by the City within 24 months after project approval. Whether or not navigation easement would be a required condition of any such program and, if so, the terms of the easement would be determined at the time the Council approves the program.

Response 5

As stated in section 2.2.3 of the Draft EIR (refer to pages 2-12 and 2-13), the Transportation Security Administration (TSA) has requested additional space at the Airport for its passenger security screening and administrative functions. In addition, the TSA has indicated that the current open-air baggage security screening area is not sufficient because of the sensitivity of the equipment being used. These requests are memorialized in a document titled, *Transportation Security Administration Space Requirements at Long Beach Airport.*

COMMENTER 237 MIKE DONELON

Response 6

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 238 GEORGE GIBBONS

Response 7

Please see Topical Response 3.1.5 pertaining the methodology of the Air Quality Analysis and Human Health Risk Assessment.

COMMENTER 239 SANDRA GIBBONS

Response 8

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. Please refer to Topical Responses 3.1.1 and 3.1.5, respectively, for discussions regarding the Airport Noise Compatibility Ordinance and the Draft EIR's air quality impact analysis.

Response 9

The EIR recommends mitigation measures to reduce the impacts associated with implementation of the Proposed Project (construction impacts), and measures which would minimize impacts associated with operations at the Airport. Mitigation measures 3.2-12–3.2-15 are air quality measures that would reduce air quality impacts associated with current operations. These measures include incorporating infrastructure for electric charging stations to support electric ground support equipment (GSE); the provisions for power units and preconditioned air into the air carrier ramp design; use of ultra-low sulfur diesel; and requiring compliance with the South Coast GSE MOU. All these measures, which would be incorporated into the Proposed Project, would reduce air emissions compared to existing conditions. It should also be noted that the additional flights addressed in the EIR are not a component of the Proposed Project. The additional flights are flights that would be allowable under the Airport Noise Compatibility Ordinance with or without the Proposed Project, provided the airlines were able to sufficiently reduce noise levels through methods such as using quieter aircraft and reducing the number of late night operations.

Response 10

The Proposed Project would not preclude the continuation of the practice of dropping people off at the Airport. As discussed in the Draft EIR Section 3.8, Transportation and Circulation, the traffic generation figures were based on a study of current operations (pages 3.8-2 and 3.8-3) at the Airport. If there are currently a large number of people being dropped off at the Airport to avoid parking charges, this would have been reflected in the study done which was based on actual trips at Long Beach Airport. Similarly, the parking demand was based on the *Parking Adequacy Analysis Study* conducted by International Parking Design for the Airport in 2001. The report concluded that 2.75 parking spaces would be needed for each 1,000 annual enplanements. This rate would be reflective of current practices and assumes a continuation of these practices.

Response 11

The fiscal considerations of the project are not a topic pursuant to CEQA. The EIR addresses potential physical impacts.

Response 12

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

COMMENTER 240 ANN CANTRELL

Response 13

The Proposed Project would not preclude the continuation of the practice of dropping people off at the Airport. As discussed in the Draft EIR Section 3.8, Transportation and Circulation, the traffic generation figures were based on a study of current operations (pages 3.8-2 to 3.8-3) at the Airport. If currently there are a large number of people being dropped off at the Airport to avoid parking charges this would have been reflected in the study done which was based on actual trips at Long Beach Airport.

Future parking demand was based on the *Parking Adequacy Analysis Study* conducted by International Parking Design for the Airport in 2001. The report concluded that 2.75 parking spaces would be needed for each 1,000 annual enplanements. This rate would be reflective of current practices and assumes a continuation of these practices. It should be noted that, as discussed in the Draft EIR (Section 3.8, Transportation and Circulation), by providing additional parking on site, the Proposed Project would reduce the overall number of trips at the Airport because it would eliminate some of the extra trips associated with "meeters and greeters" (i.e., trips associated with having someone drop a passenger off at the Airport and having to come back and pick them up when they return). Fewer trips result in less congestion and fewer air quality emissions.

Response 14

The baggage claim area would consist of 510 linear feet of baggage claim devices. This is referring to the linear feet of the machines that circulate the baggage for passengers claiming luggage. The overall square footage would be greater because it would include not only the machines (which would exceed 510 square feet), but the also the area surrounding the baggage claim devices where passengers would stand to claim their luggage. Similar to existing conditions, this would be an open-air (covered but not enclosed) area. The nature of office space is very different and is expressed in square feet.

Response 15

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 16

Jetways were not included in an effort to maintain the character of the existing airport. However, your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. It should be noted that the City currently provides ADA lifts for use by the airlines and has recently purchased ADA ramps. JetBlue is currently using ADA ramps at the Airport. These ADA lifts and boarding ramps have eliminated the need for airline employees to lift and carry disabled passengers up the boarding stairs.

COMMENTER 241 LILLIAN KAWASAKI

Response 17

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. It should be noted that the subject EIR is a comprehensive document designed to inform the decision makers of all the environmental consequences, including cumulative impacts, of approving a terminal improvement project. The increase in passenger counts**,** as described in your comment**,** would exist even without the proposed terminal expansion and is a function of the City's Airport Noise Compatibility Ordinance which regulates the number and frequency of commercial air carrier flights at the Long Beach Airport regardless of terminal sizing. Please refer to the cumulative impact discussion in the EIR

Response 18

Please see Topical Response 3.1.1, pertaining to project description and the relationship of increased flights, and 3.1.9 for a discussion of cumulative project impacts.

With respect to general aviation, it should be noted that the City's Airport Noise Compatibility Ordinance (LBMC 16.43, Section 16.43.090 A), established and defined the role and responsibility of the General Aviation Noise Committee (GANC). Several years ago the group changed their working name to the Aviation Noise Abatement Committee (ANAC).

Per the Ordinance, this committee is not mandatory and the decision to organize such a committee is at the discretion of the Airport's General Aviation Owner/Operators. Their stated purpose is “to encourage voluntary noise abatement efforts.” If the committee is formed, the Airport is required to provide the committee with reports identifying aircraft Owner/Operators who have violated the provisions of the Ordinance.

Section B states “The GA Noise Committee, if formed, will publicize the Airport's noise abatement program and encourage compliance. In the case of General Aviation Owner/Operators which fail to comply with the City's enacted noise restrictions, the Committee shall be permitted to attempt to achieve voluntary compliance.”

Response 19

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 20

The 3.8 MAP shown in the 2003 NOP was taken from the last forecast done at the Airport at that time, which was in August of 2001. The 3.8 MAP determined by the forecaster was the probable number of annual passengers based on data at that time.

Following the 2003 NOP, to develop the facilities that would be studied in the EIR, a consultant was hired to determine a peak-hour forecast and facility sizing to accommodate that peak hour. During the development of the peak hour forecast, the consultant estimated the annual number of passengers to be 4.2 MAP.

The significant differences with the two forecasts are the types of aircraft used and the load factors. In August of 2001, JetBlue was just beginning service at Long Beach, American had not introduced the use of the 757, and the definition of a commuter aircraft per the City's noise ordinance (less than 75,000 lbs) generally held no more than 50 passengers. New information for the 2005 NOP included the high load factors experienced by JetBlue and other airlines at the Airport, the introduction of larger passenger aircraft at the Airport, and the increase of commuter passenger seating from 50 to 70 (this type of aircraft has been used by both America West and Horizon at the Airport).

To directly compare the numbers, the 3.8 MAP was based on aircraft ranging from 50 to 162 seats with a load factor ranging from 70 percent to 80 percent. The 4.2 MAP is based on aircraft ranging from 70 to 176 seats with load factors ranging from 82 percent to 95 percent.

Response 21

The most recent version of the SCAG’s Regional Transportation Plan (RTP), which was adopted in 2004, assumes that Long Beach Airport will serve 3.8 MAP. It should be noted that this figure was provided by the City during preparation of the 2004 RTP and was based upon the best data available at that time. Subsequent to preparation of the 2004 RTP, and as a part

of the planning required for the Proposed Project, the City has reevaluated its earlier estimate and determined that compliance with the minimum number of flights allowed under the Airport Noise Compatibility Ordinance[152] could result in approximately 4.2 MAP being served at the Airport consistent with the current aircraft types and load factors occurring at the Airport.

Pursuant to Federal law (citation), SCAG must update the RTP every three years in coordination with local agencies, including the City of Long Beach. The next update is currently in progress and will reflect the revised passenger forecast.

Response 22

In conformance with CEQA, the City of Long Beach prepared this Draft EIR to address the potential environmental impacts associated with improvements to the Long Beach Airport. Cumulative air quality and human health risk impacts associated with the improvements of Long Beach Airport are described in Section 5.3.2 of the Draft EIR.

The scope of the Draft EIR is to address incremental impacts on possible human health risks, not to try to define "risks the community is currently subjected to". Such an effort is outside of the scope of a CEQA investigation and, more importantly, is not necessary to evaluate potential health impacts associated with airport improvements.

Some data are available from the South Coast Air Quality Management District (SCAQMD) that provide some perspective on total risks related to TAC in air in the South Coast Air Basin. These data are summarized and interpreted in the Multiple Air Toxics Exposure Study II (MATES II, SCAQMD 2000), which is cited in the *Air Quality Impact Analysis and Human Health Risk Assessment Technical Report.* Comparisons of predicted incremental impacts due to Airport improvement with total impacts due to release of TACs to the air from all sources provides the best quantitative means to show possible cumulative impacts from Airport operations. In all cases, incremental impacts from the Airport are estimated to be a small fraction of the cumulative impacts from all sources.

The MATES II information is relatively old; however, a study to update MATES II information (MATES III) is still underway and data from the latter study are not yet available for use in evaluation of cumulative impacts. MATES II data remain the best available for evaluating possible cumulative impacts.

Quantitative analysis of any cumulative impacts of future projects at the Ports of LA and Long Beach as well as 710 Freeway expansion are beyond the scope of the Draft EIR. The City has no way of knowing if and when such projects will be undertaken and what the timing and scope of the projects, if approved, might be. Any such projects conducted in the future would be subject to CEQA and would have to account for cumulative impacts, including those associated with airport improvement. Only at such time would sufficient information be available to assess potential cumulative health risks.

One Draft EIS/EIR completed approximately the same time as the Airport Draft EIR for a liquefied natural gas (LNG) terminal and associated facilities at the Port of Long Beach (FERC 2005) provided estimates of air concentrations and health risks associated with that facility at the nearest receptors to the Port. Noting that the pollutant concentrations would decrease by approximately a factor of ten as they are dispersed toward the Airport (CARB 2005), the LNG project impacts will not increase the ambient air concentrations above any ambient air quality standards for those pollutants that were shown to be better than the standards in the Airport

[152] i.e., 41 daily commercial flights and 25 daily commuter flights

Draft EIR. In addition, the health risks near the Airport associated with the LNG facility operation, after accounting for dispersion from the Port (CARB 2005), would not increase any of the calculated Airport project incremental risks above the defined significance thresholds.

References:

CARB. 2005 (October). *Draft: Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach*, *California*. Sacramento: CalEPA, Air Resources Board.

FERC. 2005 (October). *Draft Environmental Impact Statement/Environmental Impact Report – Long Beach LNG Import Project*, (FERC/EIS-0168D and SCH No. 2003091130). Federal Energy Regulatory Commission and Port of Long Beach.

SCAQMD. 2000 (November). Final Report: Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-II), Diamond Bar, CA: SCAQMD.

Response 23

The commenter suggests that 55 CNEL be used as a land use criterion instead of 65 CNEL. The criterion used by the City is consistent with the California Airport Noise Regulations and the guidelines provided by the FAA. In addition, in a built up community such as the City of Long Beach, ambient noise levels exceed 55 CNEL. For example, for the year 2004, noise data were obtained from the Long Beach Airport noise monitoring system for the 18 microphones located around the Airport. The noise monitoring system classifies noise sources as 'aircraft' or 'community.' Community noise is all noise sources other than aircraft. These data are presented in Table 3.6-4 of the Draft EIR. Not one of the 18 microphone locations has a community noise level as low as 55 CNEL. The lowest ambient noise levels are at Sites 1 and 2 at 57.7 and 57.9, respectively. The site map can be found in Exhibit 3.6-7 of the Draft EIR. Only one other site has an ambient level less than 60 CNEL (Site 8). The remaining 15 sites have ambient noise levels above 60 CNEL. Given these ambient levels, the use of 65 CNEL as an airport criterion is reasonable.

Response 24

Your comment is noted. The DEIR does include reasonable and feasible mitigation measures to reduce all of the Proposed Project's potential impacts to a level considered less than significant. The only area for which a significant, unavoidable impact would exist after implementation of the mitigation program is in the area of air quality and is associated with the Optimized Flights scenario. As stated in Section 2.7 of the DEIR, the EIR addresses the potential impacts associated with the maximum flight levels that could possibly occur at the Airport under the provisions of the Airport Noise Compatibility Ordinance given the current fleet mix and the assumption that airlines would continue operating within current markets. These flight levels, which are called the Optimized Flights Scenario, could occur without implementation of the Proposed Project and are, therefore, not causally related to the Proposed Project.

Response 25

The terms of any noise easement have not been determined at this time. The rational for such an easement comes from State Law. The California Airport Noise Regulations, Title 21 of the *California Administrative Code* define noise impact boundaries for airports. If an airport has sound-insulated homes and obtained an easement, the subject property in deemed compatible. The language in the regulation is as follows:

5014. Incompatible Land Uses Within the Noise Impact Boundary.

For the purpose of determining the size of the noise impact area, the following land uses are incompatible:

(a) Residences, including but not limited to, detached single-family dwellings, multi-family dwellings, high-rise apartments or condominiums, and mobile homes, unless:

(1) an avigation easement for aircraft noise has been acquired by the airport proprietor, or

(2) Public and private schools of standard construction for which an avigation easement for noise has not been acquired by the airport proprietor, or that do not have adequate acoustic performance to ensure an interior CNEL of 45 dB or less in all classrooms due to aircraft noise;

Note that the State regulation does not define what the terms of the easement must be. The proposed land use compatibility program would be adopted by the City within 24 months after project approval. Whether or not avigation easement would be a required condition of any such program and, if so, the terms of the easement would be determined at the time the Council approves the program.

Response 26

Regarding the location of future parking, there would be no predetermined locations and any such project would be subject to CEQA review.

Response 27

The distribution of flights throughout the day is market driven. Except for provisions of the curfew, the City cannot dictate the time of day when the airlines must schedule their operations. With regards to operational considerations, neither the City nor the Airport has any control over flight patterns or altitudes; the Federal Aviation Administration has exclusive jurisdiction over aircraft in flight.

Response 28

The Draft EIR identifies there would be approvals that would require a federal action and therefore, be subject to the National Environmental Policy Act. Specifically, page 2-18 states,

> In addition modification to the Airport Layout Plan that affect airside operations (i.e., activities on the airfield side of airline gates), such as the addition of new airline gates, aircraft parking positions, or modification to general aviation tie down locations, would require approval of the Federal Aviation Administration. Any federal actions would require environmental documentation pursuant to the National Environmental Policy Act (NEPA). The FAA, not the City of Long Beach, would be the lead agency for any documentation pursuant to NEPA. However, the FAA may choose to use material in this EIR or incorporate the document by reference into the NEPA documentation.

The FAA must also complete a General Conformity Evaluation before issuing a Record of Decision (ROD) for any airport improvements that require FAA approval or use FAA-controlled funds. While the General Conformity Evaluation can be conducted simultaneously with the CEQA analysis, it is also acceptable to conduct this study following completion of the CEQA process. For the Long Beach Airport Terminal Improvement Project, the City has chosen to

complete the CEQA evaluation and obtain Final EIR certification before embarking on the NEPA and General Conformity studies. However, a NEPA and General Conformity evaluation are required to be completed before FAA can issue the ROD. In addition, a General Conformity determination cannot be made if the project is found to not conform with the State Implementation Plan (SIP) for achieving the National Ambient Air Quality Standards.

Response 29

Please see Topical Response 3.1.9 pertaining to cumulative impacts for more information about this topic.

Response 30

A 45-day public review period is a standard review period for an EIR. As indicated in Response 3, above, the review period was extended to 84-days. The commenter states that the document has been very hard to obtain. Not only were copies available at every library in the City of Long Beach and at the main libraries in the Cities of Signal Hill and Lakewood, the entire document, including appendices, was available on the City's website. The document was also available at City Hall and on CD.

COMMENTER 242 TERRY SLAVIN

Response 31

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 243 LAURA SELLMER

Response 32

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 33

Parcel O is depicted in the Draft EIR, Exhibit 2-7, Location of Parcel O Improvements. The Draft EIR describes Parcel O in a number of locations. On page 2-2, the EIR states, "Parcel O is located on the southern portion of the Airport in the vicinity of Clark Avenue and Willow Street. Currently, Parcel O is undeveloped. The Long Beach Airport Development Areas map identifies Parcel O as a seven-acre area designated for aircraft tie-down and hangars." The document further describes the intended use for Parcel O on page 2-14…The general aviation aircraft displaced from the Million Air site would be relocated to a new tie-down area south of Runway 12-30, known as Parcel O. Parcel O is a seven-acre site; however the narrow "panhandle" portion of the parcel would not be developed. Only about six acres would be developed for aircraft parking. The location of Parcel O depicted in Exhibit 2-7. This would require clearing and paving of Parcel O and installation of security equipment. When improvements are completed the 70 displaced general aviation aircraft could be accommodated in this location. There is potential that aircraft hangars would be developed on Parcel O. This use is consistent with the Long Beach Airport Development Areas map dated March 25, 2003.

Response 34

The project description in the Draft EIR distinguishes between aircraft parking spaces and gates. The exhibit referenced in the handout at the public meeting depicts the conceptual terminal layout. The 11 aircraft shown are associated with the gates. The Draft EIR (page 2-14) provides the following definition of gates:

> At Long Beach Airport, the term "gates" is used to identify the doors in the holdrooms that are used for passenger boarding. Jetways, which provide direct access from the Airport terminal area to the aircraft, are not possible given that jetways require a second story to allow access and the Proposed Project includes only a one-story holdroom.
>
> The Proposed Project provides for 14 aircraft parking spaces. An aircraft parking space is a location where the aircraft would be able to connect to auxiliary power units or park if a turn-around flight is not scheduled (such as for aircraft remaining overnight).

Response 35

The noise analysis does include noise generated while the aircraft is on the ground. The noise monitoring system records all of the noise that it 'hears' regardless of whether the wheels are on the ground or not. The noise model used to generate the noise contours includes the takeoff roll, landing roll, and thrust reverser noise. The statement "that the noise calculation disregarded the high level of noise when a jet is taking off and landing, when wheels are on the ground" is not true. The person or agency that gave "the public" this information was misinformed.

Response 36

Your comment is noted. As indicated on page 2-11 of the Draft EIR,

> There is a commitment to construct the new facilities to meet high standards for energy efficiency and environmental design. The intention is to construct the facilities consistent with the LEED standards. LEED, which stands for Leadership in Energy and Environmental Design is "based on well-founded scientific standards, LEED standards emphasizes state of the art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. LEED standards recognizes achievements and promotes expertise in green building through a comprehensive system offering project certification, professional accreditation, training and practical resources." (U.S. Green Building Council, http://www.usgbc.org). This would be implemented through a variety of design features. Precise methods for accomplishing the LEED standards would be determined through project design.

It is recognized that construction of facilities in excess of what is required to serve the demand would not be efficient; however, it is also necessary to provide sufficient facilities to serve the demand. Construction of terminal improvements that would not serve the demand and necessitate other improvements or use of temporary modular buildings, similar to existing conditions, would not be environmentally superior. As indicated in the Draft EIR (page 1-25),

> Based on the *Facility Requirements Analysis, Long Beach Municipal Airport* (HNTB, 2004) study which was prepared during the scoping process, the recommended sizes of the facilities to best meet the needs for the passengers,

visitors, and tenants actually exceeded the square footage allocation of even the Proposed Project.

COMMENTER 244 GAIL RAMSEY

Response 37

Please see Topical Responses 3.1.1 and 3.3.6 pertaining to the relationship of the improvements to increased flights and the noise violation review process, respectively.

COMMENTER 245 DON MAY

Response 38

The commenter raises several issues; these are addressed separately below.

It appears that the commenter is referring to page 5-11 of the MATES-II study when stating that "page five dash ten of MATES-II…looks at the air quality in this area without trucks, ships and port emissions." Page 5-10 of MATES-II shows a figure entitled, "Model Estimated Risk for the Basin." The figure on page 5-11 is entitled, "Model Estimated Risk for the Basin (without diesel sources)." The intent of this figure is to show air quality without all diesel sources, not just the sources indicated by the commenter. MATES-II states that mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) are the greatest contributors to risk and that 70 percent of the risk is attributed to diesel.

The comment starting with, "We would be in compliance with national air standards..." is misleading because it suggests that the indicated large source areas are caused by airport activity and that the risk estimates are directly related to ambient air quality standards. The black dot in Long Beach is not near the airport, and the risk calculations in MATES-II are not comparable to ambient air quality standards. Removing airports from the region is not likely to result in compliance of the ambient air quality standards and would cause significant (likely catastrophic) impacts to the economic stability of the region.

Refer to Topical Response 3.1.5 regarding the link between airport emissions and adverse health effects.

Regarding the identification of aircraft emissions, the commenter is referring to Section 3, Emission Estimates, of the technical report in Appendix C. Attachment C of this Responses to Comments volume describes the dispersion modeling identifying how the emissions are dispersed into the environment and where the emissions go.

The commenter makes a vague unsupported reference to errors regarding exposure. The City does not agree with this assessment and believes that the current health risk assessment is credible and follows applicable standards and guidance regarding exposure parameters for the airport's build alternatives.

The AQMD air monitoring station for north Long Beach includes continuous monitoring of several pollutants including PM_{10}, NO_2, SO_2, O_3, and CO. Near-real time air quality results for this station are available online at http://www.arb.ca.gov/qaweb/site.php?s_arb_code=70072. Refer to Topical Response 3.1.5 regarding the appropriateness of using data from this station.

Response 39

The AQMD air monitoring station for north Long Beach used in the analysis for the Draft EIR is a monitoring station and not a sampling station as indicated by the commenter. Near-real time air quality results for this station are available online at http://www.arb.ca.gov/qaweb/site.php?s_arb_code=70072. Data available through this site shows that the data are not reported in "tiers" as claimed by the commenter, in fact, maximum hourly concentrations are reported. In addition summaries of the highest four measurements through 2005 can be obtained from www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b-d2w/start. Refer to Topical Response 3.1.5 regarding the appropriateness of using data from this station.

To contradict the commenter's comment, $PM_{2.5}$ is also monitored at this station, although its results are not available in real time. The PM_{10} data is also not reported in tiers as noted by the commenter. PM_{10} data is reported by the hour in micrograms per cubic meter.

With respect to ultrafine particles, an analysis of ultrafine particulate matter is not a current regulatory requirement. No separate ambient air quality standards exist for ultrafine particulate matter beyond the national and California standards for particulate matter with aerodynamic diameters less than or equal to 10 micrometers (PM_{10}) and 2.5 micrometers ($PM_{2.5}$). Note that these standards were specifically developed to protect the public health with an adequate margin of safety.[153] In addition, no defined risk factors, beyond those developed for total diesel particulate matter (DPM) and specific toxic metals (e.g., chromium) which may be components of ultrafine particulate matter, have been developed for general ultrafine particulate matter. Comparison of project-related PM_{10} and $PM_{2.5}$ impacts with the health-based ambient air quality standards are presented in the Draft EIR, Section 3.2 and Appendix C, Section 4. Risks associated with DPM are addressed in the Draft EIR, Appendix C, Section 5. Ultrafine particulate matter is ubiquitous in the environment. Primary sources of ultrafine particulate matter include anthropogenic sources, such as fuel combustion (e.g., power plants, vehicles) and industrial processes (e.g., welding), and natural sources (e.g., wild fires, volcanoes, sea spray); secondary sources include atmospheric reactions of gases to form particles (e.g., transformation of nitric oxide to form ammonium nitrate).[154] The City has proposed a number of mitigation measures to reduce impacts from project-related air pollutants, including particulate matter, as discussed in the Draft EIR, Section 3.2.3 – Mitigation. These include several measures to reduce particulate matter impacts from construction equipment (MM-3.2-1, MM-3.2-2, MM-3.2-5, MM3.2-6, and MM-3.2-9), and airport operating mobile sources (MM-3.2-12, MM-3.2-13, MM-3.2-14, and MM3.2-15).

As noted in Section 5.2.2 of the technical report in Appendix C, school children and children in residential areas are quantitatively assessed in the Human Health Risks Assessment (HHRA). Other sensitive population groups (such as people in hospitals, nursing homes, and retirement communities) are protected by the analysis of child and adult residential populations in the HHRA and the use of CalEPA and USEPA toxicity criteria. Engaging in behavior such as smoking, drinking, overeating, or other lifestyle habits can increase one's risk of adverse health effects. Adverse health effects could also result from workplace exposure, environmental exposure, or some other factor. An observation of adverse effects would not necessarily correlate with exposure to airport emissions. Air quality in the South Coast Air basin is degraded by many TAC from a variety of sources, of which traffic is the largest and most important.

[153] 42 USC 7409 (b)(1).

[154] Wu, Chang-Yu and Pratim Biswas, 2005. "A Summary of the 2005 Critical Review: Nanoparticles and the Environment," *EM: The Magazine for Environmental Managers*, June:33–39.

Quantitative analysis of any cumulative impacts of future projects at the Ports of LA and Long Beach and 710 Freeway expansion are beyond the scope of this Draft EIR. The City has no way of knowing if and when such projects will be undertaken and what the timing and scope of the projects, if approved, might be. Any such projects conducted in the future would be subject to CEQA and would have to account for cumulative impacts, including those associated with airport improvement. Only at such time would sufficient information be available to assess potential cumulative health risks.

One Draft EIS/EIR completed approximately the same time as the Airport Draft EIR for a liquefied natural gas (LNG) terminal and associated facilities at the Port of Long Beach provided estimates of air concentrations and health risks associated with that facility at the nearest receptors to the Port (FERC 2005). Noting that the pollutant concentrations would decrease by approximately a factor of 10 as they are dispersed toward the Airport, the LNG project impacts will not increase the ambient air concentrations above any ambient air quality standards for those pollutants that were shown to be better than the standards in the Airport Draft EIR (CARB 2005). In addition, the health risks near the Airport associated with the LNG facility operation, after accounting for dispersion from the Port, would not increase any of the calculated Airport project incremental risks above the defined significance thresholds (CARB 2005).

COMMENTER 246 GERRIE SCHIPSKE

Response 40

The land use compatibility program is voluntary because the individuals close to the airport may choose not to have their homes sound insulated. The proposed land use compatibility program would be adopted by the City within 24 months after project approval. Whether or not avigation easement would be a required condition of any such program and, if so, the terms of the easement would be determined at the time the Council approves the program.

Response 41

The land use compatibility program is voluntary because the individuals close to the airport may choose not to have their homes sound insulated..

COMMENTER 247 JIM SAURENMANN

Response 42

The extension of Donald Douglas Drive easterly to Lakewood Boulevard would provide an additional exit for traffic leaving the airport. The existing exit at Donald Douglas Drive and Lakewood Boulevard would still remain in place and would still service entering and exiting traffic. Vehicles will be able in the future to continue to turn left out of the Airport at the existing signal at Donald Douglas Drive and Lakewood Boulevard. Thus, traffic would not have to make a U-Turn south of the Airport in order to travel northbound on Lakewood Boulevard.

Response 43

The Proposed Project would not preclude the continuation of the practice of dropping people off at the Airport. As discussed in the Draft EIR Section 3.8, Transportation and Circulation, the traffic generation figures were based on a study of current operations at the Airport. If currently a large number of people being dropped off at the Airport to avoid parking charges this would have been reflected in the study done which was based on actual trips at Long Beach Airport(pages 3.8-2–3.8-3). Similarly, the parking demand was based on the *Parking Adequacy*

Analysis Study conducted by International Parking Design for the Airport in 2001. The report concluded that 2.75 parking spaces would be needed for each 1,000 annual enplanements. This rate would be reflective of current practices and assumes a continuation of these practices.

Response 44

The Congestion Management Program (CMP) is a mandated program Statewide (section 65084 of the *California Government Code*). The CMP for Los Angeles County directs the procedures for the study of project traffic on the freeway system. The CMP states that traffic must be analyzed at specified freeway monitoring locations to determine if the project will add 150 or more trips in the a.m. or p.m. weekday peak hours. The two closest CMP monitoring locations are at I-405 at Santa Fe Avenue and I-405 just north of SR-22. Although this project did not meet the 150-vehicle threshold at either location, the analysis was shown for the two nearest freeway monitoring stations. The analysis indicated there would be no significant project impact on the freeway system at the monitoring locations.

Response 45

The traffic study was conducted using City- and County-defined methodologies. Their requirements state that a.m. and p.m. peak hours (7–9 a.m. and 4–6 p.m.) are to be studied. The reason we study the peak (7–9 a.m. and 4–6 p.m.) hours is because the highest roadway volumes tend to occur during these times, thus the “worst case” scenario is assessed. At other times of the day, the background (non-airport) related traffic is not at its highest levels. The additional flights under the Optimized Flights analysis would be disbursed throughout the day (due to physical limitations of the number of planes that could take off or land in one time period), and the additional trips associated with these flights would also be disbursed throughout the day. Although the Airport may experience times when airport-related traffic volumes are higher (such as mid-day), the local street traffic is not concurrently at its peak at those times and an analysis of this would not result in a worst-case scenario.

The traffic report shown in Appendix G provides a more detailed explanation of the methodologies used. The presentation was intended to be a brief overview of the findings, not a detailed discussion of the methodology and all the steps followed.

COMMENTER 248 GARY FRAHM

Response 46

Please see Responses 35 and 213 to your letter submitted January 30, 2006. RMT 3 is located in the near vicinity of Bixby Hill. The noise from this monitoring site and the software used to generate the noise contours is adequate to provide the description of the noise at Bixby Hill. For effects of aircraft weight on noise see Responses 21 and 25 to your letter submitted January 30, 2006.

Response 47

The commenter’s statement is not relevant to the Draft EIR.

The duplicate complaint field was created when the Airport was receiving cut and paste complaints via e-mail from several different people (i.e., 52 identical complaints came from 15 people). The original or first sender was counted in the complaint column, and the duplicate complaint lists were tallied and entered in a “duplicate complaint” column. By doing so, all the complaints were counted, while identifying those instances of identical lists.

Response 48

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 49

Please see Topical Response 3.1.1, pertaining to the relationship of the Proposed Project to an increase in the number of flights. Additionally, it should be noted that the Proposed Project would reduce the long-term air emissions compared to existing conditions or the No Project Alternative. Mitigation measures 3.2-11–3.2-15 pertain to reducing long-term emissions. These measures would apply to the build alternatives and would include provision for infrastructure that would allow use of electric ground support equipment. This would substantially reduce the emissions generated at the Airport.

Response 50

Your comments are noted. As indicated in the Draft EIR, the only way the airlines would be able to increase the number of flights over the minimum levels allowed under the Airport Noise Compatibility Ordinance is if the noise levels do not exceed the noise budget provided for in the Ordinance. Please see Topical Response 3.1.1 pertaining to this issue.

Response 51

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

COMMENTER 249 RANDY NISBET

Response 52

Refer to Topical Response 3.1.5 regarding the measurements of black carbon collected by others in the vicinity of the Airport, the comparison of the black carbon to ambient air quality standards, and the selection and use of measured ambient air quality data in the Draft EIR air quality impact analysis and human health risk assessment.

Response 53

Please see Topical Response 3.1.5 pertaining to the air quality methodology.

COMMENTER 250 TOM WARNKE

Response 54

It is assumed that the commenter's anecdote is a reference to particulate matter deposition on the solar panels. Refer to Topical Response 3.1.5 particulate matter deposition in the vicinity of airports.

Response 55

Air carrier use of Runways 25R only occurs on rare occasions; nevertheless, both of these runways are included in the noise calculations. The existing noise monitoring system and the

computer noise modeling is adequate to define aircraft noise levels within the study area. Additional noise monitors would not change the results presented in the DEIR.

COMMENTER 251 STEVE WRAIGHT

Response 56

Please see Topical Response 3.1.8 pertaining to visual impacts. The proposed parking structure meets the height requirements set by the zoning code for this area as established by the adopted Planned Development No. 12. In addition, the DEIR did not identify the proposed parking structure as a visual impairment to the existing historic terminal building. To construct the parking structure below existing grades would not only cost significantly more than the proposed parking structure, but would also require the removal of large quantities of soil from the site resulting in short term environmental impacts such as traffic and air pollution required to accomplish this activity.

Response 57

Your comment is noted. The adoption of a Land Use Compatibility Program was recommended as a method of reducing impacts to homes within the 65 CNEL contour. As indicated in the Draft EIR (page 3.6-26), these impacts are not as a result of the Proposed Project. At this point, the details of the program are not known. If the mitigation measure is adopted by the City Council, the program would be developed within 24 months of certification of the EIR. Your concerns on specific provisions within the program are noted and have been forwarded to the decision-makers as part of the Final EIR. In the event that it is determined to be appropriate, the type of windows the commenter identifies is available on the market.

Response 58

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 59

The comment is noted. The City of Long Beach aircraft noise mitigation program is primarily the airport noise ordinance which limits single event noise and establishes a noise budget that limits the number of flights.

COMMENTER 252 JOE SOPO

Response 60

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. However, an extensive effort was made during the scoping process to address the appropriate sizing of the terminal area facilities. As summarized in the Draft EIR (Section 2.4, Project History), the AAC conducted a series of 15 public meetings on the size of the proposed improvements and the scope of the EIR. To support that effort, HNTB prepared a study report that considered a number of factors and made recommendations on the proposed improvements (*Facility Requirements Analysis, Long Beach Municipal Airport*, 2004). Factors considered included the number of flights, the number of passengers served, type of flights (i.e., short-haul and long-haul trips), and industry standards. Based on this scoping and outreach

process, the AAC made a recommendation to the City Council on the size of the improvements which was approximately 133,000 square feet of terminal area. The City Council decided to reduce the maximum size of the facilities. The largest alternative evaluated in the Draft EIR was the Proposed Project, which would provide 102,850 square feet. These improvements were sized to serve the minimum 41 commercial flights and 25 commuter flights provided for in the Airport Noise Compatibility Ordinance. SCAG's 2004 Regional Transportation Plan and accompanying Regional Aviation Plan both assume the minimum number of flights at the Airport. Mike Armstrong with SCAG's Planning and Policy Department indicated there are no plans at SCAG which forecast that service would exceed the minimum levels provided for in the Airport Noise Compatibility Ordinance.

Response 61

The results of the Human Health Risk Assessment were incorporated into the Draft EIR, Section 3.2, Air Quality and Human Health Risk Assessment. The technical report in its entirety is presented in Appendix C. This health risk assessment evaluates the risks and hazards for the No Project and the Optimized Flights alternatives in 2011 and 2020.

The commenter's statement that "old modeling" was used is incorrect. The City does not agree with this assessment of the Draft EIR. Refer to Topical Response 3.1.5 regarding the status of EDMS and AERMOD. As noted in that response, the FAA requested the removal of EDMS from the list of preferred regulatory air dispersion models because EDMS is not a single model but a linked set of emission and dispersion models and algorithms. Since 2001, EDMS has used the EPA's AERMOD model for dispersion calculations; EPA approved AERMOD for general use in the same Federal Register notice that removed EDMS from the list of preferred air dispersion models. Therefore, validation studies and performance evaluations are not necessary for use of EDMS as a dispersion model because those studies and evaluations have already been completed for AERMOD. In addition, EDMS has <u>not</u> been removed from the Guideline on Air Quality Models. Section 6.2.4 c of the Guideline states that (emphasis added):

> The latest version of the Emissions and Dispersion Modeling System (EDMS), was developed and is supported by the Federal Aviation Administration (FAA), *and is appropriate for air quality assessment of primary pollutant impacts at airports or air bases.* EDMS has adopted AERMOD for treating dispersion. Application of EDMS is intended for estimating the collective impact of changes in aircraft operations, point source, and mobile source emissions on pollutant concentrations…[155]

In addition, the air dispersion analysis conducted for the Draft EIR was essentially completed by the end of September 2005, prior to the adoption of the most recent version of AERMOD. Refer to Topical Response 3.1.5 regarding air sampling data near the Airport and measurements collected by others near the Airport.

COMMENTER 253 ANN DENISON

Response 62

Please see Topical Response 3.1.1 pertaining to the relationship of improvements to increased flights and the Airport Noise Compatibility Ordinance.

[155] 40 CFR 51 Appendix W Section 6.2.4 c. (as amended November 9, 2005).

COMMENTER 254 GREG HERWEG

Response 63

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 64

Please see Topical Response 3.1.6 regarding enforcement of noise violations at the Airport.

Response 65

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 255 PAUL GUTIERREZ

Response 66

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 256 ELENA WRAIGHT

Response 67

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 68

The fiscal considerations of the project are not a topic pursuant to CEQA. The EIR addresses potential physical impacts.

Response 69

As indicated in the Draft EIR (page 3.5-17), the lease with Million Air, Inc. allows the City the right to terminate the lease on 4.22 acres containing the aircraft tie-down area upon 180-day notice to the tenant. This displacement would not be considered a significant impact because the Proposed Project would provide for the continuation of its uses on the Airport and these actions would be considered consistent with the lease provisions.

Response 70

The Draft EIR did not assume that carriers will fly quieter aircraft. It did, however, examine the noise impacts that would occur if the carriers did introduce quieter aircraft and as a result could increase the number of flights under the terms of the noise budget. The Draft EIR does present noise data for the existing fleet (Exhibit 3.6-9) and for the case that would occur if the carriers use quieter aircraft and are allowed more flights (Exhibit 3.6-14).

Response 71

The parking demand was based on the *Parking Adequacy Analysis Study* conducted by International Parking Design for the Airport in 2001. The report concluded that 2.75 parking spaces would be needed for each 1,000 annual enplanements. If there are currently a large number of people being dropped off at the Airport to avoid parking charges this would have been reflected in the study done which was based on actual trips at Long Beach Airport. The EIR assumes a continuation of the current traffic generation and parking demand patterns.

COMMENTER 257 KEVIN MCACHREN

Response 72

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 73

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 74

Parcel O would be able to accommodate the approximately 70 general aviation tie-downs that would be displaced from the Million Air lease site as a result of the Proposed Project.

COMMENTER 258 BRUCE ALTON

Response 75

The purpose of the CEQA document is to evaluate the impacts associated with the Proposed Project. It would not be appropriate for the EIR on the terminal area improvements to evaluate "the environmental impacts that have taken place over the past 20 years at the Airport." Pursuant to the CEQA Guidelines Section 15125(a), "An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective." As indicated on page 2-1 of the Draft EIR, the April 2005 Notice of Preparation was used to establish the baseline for the analysis in this EIR. Any deviations from this baseline were explained in the applicable EIR sections. The EIR did provide an appropriate cumulative impacts analysis consistent with the requirements of CEQA.

Response 76

The particulate matter, which the commenter refers to as being smaller than PM_{10} and $PM_{2.5}$, is called ultrafine particulate matter. An analysis of ultrafine particulate matter is not a current regulatory requirement. No separate ambient air quality standards exist for ultrafine particulate matter beyond the national and California standards for particulate matter with aerodynamic diameters less than or equal to 10 micrometers (PM_{10}) and 2.5 micrometers ($PM_{2.5}$). Note that these standards were specifically developed to protect the public health with an adequate margin of safety.[156] In addition, no defined risk factors, beyond those developed for total diesel

[156] 42 USC 7409 (b)(1).

particulate matter (DPM) and specific toxic metals (e.g., chromium) which may be components of ultrafine particulate matter, have been developed for general ultrafine particulate matter. Comparison of project-related PM_{10} and $PM_{2.5}$ impacts with the health-based ambient air quality standards are presented in the Draft EIR, Section 3.2 and Appendix C, Section 4. Risks associated with DPM are addressed in the Draft EIR, Appendix C, Section 5. Ultrafine particulate matter is ubiquitous in the environment. Primary sources of ultrafine particulate matter include anthropogenic sources, such as fuel combustion (e.g., power plants, vehicles) and industrial processes (e.g., welding), and natural sources (e.g., wild fires, volcanoes, sea spray); secondary sources include atmospheric reactions of gases to form particles (e.g., transformation of nitric oxide to form ammonium nitrate).[157] The City has proposed a number of mitigation measures to reduce impacts from project-related air pollutants, including particulate matter, as discussed in the Draft EIR, Section 3.2.3 – Mitigation. These include several measures to reduce particulate matter impacts from construction equipment (MM-3.2-1, MM-3.2-2, MM-3.2-5, MM3.2-6, and MM-3.2-9), and airport operating mobile sources (MM-3.2-12, MM-3.2-13, MM-3.2-14, and MM3.2-15).

The health risk uncertainty to which the commenter refers is discussed in Section 6 of the technical report in Appendix C. These uncertainties are inherent in assumptions, models, and extrapolation that comprise the risk assessment process. Although several uncertainties regarding the risk calculations were identified, overall exposure and model assumptions tend to overestimate instead of underestimate risk. As such, the risk and hazard estimates in the health risk evaluation are considered protective of receptors in the vicinity of the Long Beach Airport.

Cumulative air quality and human health risk impacts associated with the improvements of Long Beach Airport are described in Section 5.3.2 of the Draft EIR.

Response 77

A Mitigation Monitoring and Reporting Program (MMRP) has been prepared in accordance with *Public Resources Code* Section 21081.6, which requires that any Lead or Responsible Agency that approves or carries out a project where an EIR has identified significant environmental effects to "adopt a reporting and monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment." The City of Long Beach is the Lead Agency for the Proposed Project. The MMRP is designed to monitor implementation of all feasible mitigation measures as identified in the Draft EIR for the Long Beach Terminal Area Improvement Project.

COMMENTER 259 PHYLLIS ORTMAN

Response 78

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 260 SUZANNE BERMAN

Response 79

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

[157] Wu, Chang-Yu and Pratim Biswas., 2005. "A Summary of the 2005 Critical Review: Nanoparticles and the Environment," *EM: The Magazine for Environmental Managers.* June:33–39.

Response 80

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 81

Your comment is correct. The Proposed Project is for the physical improvements to facilities and does not involve an increase in the number of flights.

Response 82

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 83

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 261 CARMEN CALDES

Response 84

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 85

The analysis in the Draft EIR addressed the impacts associated with construction, the Project Related Impacts, and the Optimized Flights. By breaking out the analysis into these three categories the short-term impacts associated with construction could be separated from those associated with the ongoing use of the terminal area facilities, and those associated with Optimized Flights. Having the impacts clearly delineated was especially important because, as indicated in Draft EIR (page 2-17), the Optimized Flights Scenario is not a component of the Proposed Project. The discussion of the Optimized Flights was included in the EIR at the direction of the City Council to provide the public with an understanding of the potential impacts associated with an increase in the number of flights associated with the full utilization of the minimum 25 commuter flights and an increase in the commercial carrier flights should the airlines optimize their flight operations. Both the 25 commuter flights and the potential for an increase in the commercial carrier flights is provided for in the Airport Noise Compatibility Ordinance.

Response 86

The Draft EIR discusses potential traffic impacts in Section 3.8, Transportation and Circulation. The Proposed Project (physical improvements only) would result in minimal increases in the number of vehicle trips. The increase in the number of Airport-related trips would be associated with the Optimized Flights Scenario. The terminal area improvements by themselves would not substantially result in an increase in the number of trips. The trips are tied to the passengers served, not the size of the buildings. The traffic study in the EIR analyzes the Optimized Flights Scenario and this analysis considers regional growth as well as other known projects in the area.

COMMENTER 262 GERALD MINEGHINO

Response 87

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 88

The land uses surrounding the Airport are discussed in the Draft EIR in Section 3.5, Land Use, in addition to Section 3.6, Noise.

Response 89

As indicated in the Draft EIR (page 2-8), the terminal area improvements are being designed to accommodate the demand based on the minimum requirements of the Airport Noise Compatibility Ordinance. Additionally, no modifications to the Airport Noise Compatibility Ordinance are proposed. The Airport Noise Compatibility Ordinance establishes the parameters for determining the number of flights allowed at the Airport. The physical improvements will not directly or indirectly result in additional flights or passengers.

Response 90

Your comment is noted. Currently, four commuter flights are being offered at the Airport – one by US Airways (America West) and three by Delta. It is anticipated that full utilization of the remaining 21 commuter slots will occur within the next few years. Therefore, the analysis of the Proposed Project reflects the 41 commercial flights that are currently operating at the Airport, as well as the 25 commuter flights because they are allowed under the Airport Noise Compatibility Ordinance and will likely occur within the foreseeable future.

Response 91

The distribution of flights throughout the day is market driven. Except for provisions of the curfew, the City cannot dictate the time of day when the airlines must schedule their operations. With regards to operational considerations, neither the City nor the Airport has any control over flight patterns or altitudes; the Federal Aviation Administration has exclusive jurisdiction over aircraft in flight

Response 92

The Human Health Risk Assessment was incorporated into the Draft EIR, Section 3.2, Air Quality and Human Health Risk Assessment. The technical report in its entirety is presented in Appendix C. The health risk assessment was conducted according the protocol developed for this project and reviewed by the South Coast Air Quality Management District and California Air Resources Board.

Refer to Topical Response 3.1.5 regarding Airport Emissions and Link with Adverse Health Effects and Air Quality and Human Health, the use of monitoring data in the Draft EIR air quality impact analysis and human health risk assessment, and measurements of black carbon collected by others in the vicinity of the Airport.

Response 93

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 94

It is unclear to what the commenter is referring. Section 1.7 of the Draft EIR does not include any discussion of the location of wells or the lack of wells within the project study area. Section 1.7, EIR Focus and Effects Found Not to be Significant, identifies that the Proposed Project would not result in a substantial increase in impervious soil, or substantially alter the existing drainage pattern of the site where the quality or quantity of groundwater table would be affected. It continues on to discuss the regulatory framework that is in place to address the protection of groundwater. Pursuant to the Federal Clean Water Act, the Airport has its own separate National Pollutant Discharge Elimination System (NPDES) Industrial permits (CAS000001/WDID 4B19S004985) to discharge storm water to urban storm sewer systems. The NPDES program is administered by the California Regional Water Quality Control Boards (RWQCB). The Industrial Permit is generally more stringent than the Municipal Storm Water Permit because it treats the Airport as a point source discharge, rather than a non-point discharge. The Permit requires the Airport and its tenants to maintain a number of Best Management Practices (BMPs) and requires the Airport to conduct periodic testing of stormwater runoff. Through this program, the City would be able to identify pollutant levels in excess of established thresholds. Monitoring in past years has not identified water quality issues associated with the Airport. The requirements of this permit, which applies to the entire Airport site, would address the long-term water quality issues associated with the Proposed Project. The Proposed Project would not be introducing new uses or sources of emissions that would substantially differ from the current ongoing uses. Therefore, it was determined that further analysis of hydrology and water quality issues was not necessary as part of the EIR. Both the 2003 and the 2005 Notices of Preparation identified that this issue would not be carried forward into the Draft EIR. Construction permits would still be required for implementation of the Proposed Project.

Response 95

It is unclear what point is being made pertaining to recreation. The Initial Studies (included in Appendix A) prepared as part of the scoping processes (2003 and 2005) determined that the project would not generate any increase in population or provide development that would result in increased usage of existing neighborhood and regional parks. There would not be any physical deterioration to existing recreation facilities due to the project. Therefore, this issue was not analyzed in the EIR.

Response 96

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

Response 97

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. However, it should be noted that additional flights are not part of the Proposed Project. As indicated in the project description in the Draft EIR (pages 2-7–2-15) the Proposed Project is limited to facilities improvements. The discussion of operational considerations (page 2-17 of the Draft EIR) was included at the request of the City Council. The opportunity for

additional flights is currently provided for in the Airport Noise Compatibility Ordinance; the City cannot prevent additional flights from using the Airport if the noise budget is met. In order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations through methods such as using quieter aircraft and reducing the number of late night operations.

Response 98

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal. Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

COMMENTER 263 BIRGIT DE LA TORRE

Response 99

The Human Health Risk Assessment was incorporated into the Draft EIR, Section 3.2, Air Quality and Human Health Risk Assessment. The technical report in its entirety is presented in Appendix C. The human health risk assessment was based on the concentrations of TACs estimated using EDMS/AERMOD, an air dispersion model accepted by the EPA for use in predicting air quality impacts.

Please see Section 3.6, Noise for the discussion of effects of noise on humans. As stated in the Draft (p. 3.6-4):

> Sleep interference is one of the major causes of annoyance due to community noise. Extensive research has been conducted on the effect of noise on sleep disturbance. Recommended values for desired sound levels in residential bedroom space range from 25 to 45 dBA with 35 to 40 dBA being the norm. In 1981, the National Association of Noise Control Officials published data on the probability of sleep disturbance with various single event noise levels. Based on laboratory experiments exposure to 75 dBA interior noise level event will awaken people in 30 percent of the cases. However, more recent research from England has shown once a person was asleep, that it is unlikely that they will be awakened by a noise. The significant difference in the recent English study is the use of actual in-home sleep disturbance patterns as opposed to laboratory data that had been the historic basis for predicting sleep disturbance. The main finding was that only a minority of aircraft noise events affected sleep, and, for most subjects, domestic and other non-aircraft factors had much greater effects. As shown in Exhibit 3.6-3, aircraft noise was a minor contributor among a host of other factors that lead to awakening response. Additional studies on sleep interference were conducted by the Federal Interagency Committee on Noise (FICON) and the Federal Interagency Committee on Aviation Noise (FICAN). Additional detail on these studies is provided in the technical report (Appendix F) and the full FICAN report can be found on the Internet at www.fican.org.). Briefly, the FICAN recommended a curve based on the upper limit of the data presented and to represent the “maximum percent of the exposed population expected to be behaviorally awakened,” or the “maximum awakened.” The FICAN recommendation is shown on Exhibit 3.6-4. This is a very conservative approach.

> Physiological responses of noise on people are measurable effects such as changes in pulse rate, blood pressure, etc. While such effects can be induced and observed, the extent these physiological responses cause harm or are a sign of harm is unknown. While annoyance and sleep/speech interferences have been acknowledged, health effects, if they exist, are associated with a wide variety of other environmental stressors. In a review of 30 studies conducted worldwide between 1993 and 1998, a team of international researchers concluded that, while some findings suggest that noise can affect health, improved research concepts and methods are needed to verify or discredit such a relationship.

Response 100

A health risk assessment of the Long Beach Airport project was conducted in coordination with the SCAQMD and the California Air Resources Board (CARB). This study was required by both agencies as part of the EIR. The Human Health Risk Assessment is presented in Section 3.2, Air Quality and Human Health Risk Assessment, of the Draft EIR. The technical report in its entirety is presented in Appendix C. The meeting notes and records of conference call discussions are included in the Administrative Record for this Draft EIR.

COMMENTER 264 MIKE KOWNAL

Response 101

All comments have been responded to; however, it should be noted that many of the comments received reflect opinions of the commenter rather than issues pertaining to the environmental analysis contained in the Draft EIR. These are included in the record of the Final EIR, but no specific response is necessary.

Response 102

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

Response 103

Consistent with state and federal requirements, the recommended mitigation program includes reasonable and feasible options available for reducing air quality impacts which would result from the Proposed Project and operations under the Optimized Flights Scenario. As the commenter notes, these measures would not reduce air quality impacts to a level considered less than significant. This does not mean that the Proposed Project cannot be approved, but it would require the City to adopt a Statement of Overriding Considerations, which states that the specific economic, legal, social, technological, or other benefits of a Proposed Project outweigh the unavoidable adverse environmental effects.

Response 104

Refer to Topical Response 3.1.5 regarding the regulatory status of the EDMS and AERMOD models used in the Draft EIR air quality impact analysis and human health risk assessment. Note that the modeling analysis was conducted in accordance with the modeling protocol (Draft

EIR, Appendix C, Attachment A) reviewed by the South Coasts Air Quality Management District and California Air Resources Board.

Response 105

The Draft EIR only addressed the alternatives directed by the City Council. It is believed that the commenter is referencing the discussion of the environmentally superior alternative. On page 4-9 of the Draft EIR, it stated, "… based on the *Facility Requirements Analysis, Long Beach Municipal Airport* (HNTB, 2004) study which was prepared during the scoping process, the recommended sizes of the facilities to best meet the needs for the passengers, visitors, and tenants actually exceeded the square footage allocation of even the Proposed Project." The conclusion was the Proposed Project would be environmentally superior because it would best meet the project objective without resulting in substantially greater impacts than those that would be expected with the other build alternatives. It did not address an alternative that reflected the recommendations of the HNTB study or the Airport Advisory Commission recommendations.

Response 106

The number of parking spaces required was calculated from a professional parking study titled *Long Beach Airport Parking Adequacy Analysis*, which was conducted for the City in 2001. The study showed a need for 2.75 parking spaces for each 1,000 annual enplanements.

Please refer to Exhibit 2-4, which immediately follows page 2-8 of the Draft EIR, for an illustration depicting the position of the proposed parking structure.

The Commenter suggests that commuter flights do not generate additional vehicle trips since these flights shuttle transfer passengers between airports. While this may have been true in the past, it is no longer the role of commuters. Today the commuter aircraft serving Long Beach and other airports offer primarily point-to-point origin and destination service. Very few passengers use Long Beach solely as a transfer point between airlines.

Response 107

It is uncertain exactly the question that is being asked. The Airport currently has 10 aircraft parking positions. The EIR addresses increasing the number of aircraft parking positions from 10 to as many as 14 aircraft parking positions. It does not distinguish between commuter and commercial aircraft parking spaces.

COMMENTER 265 SCOTT ROBINSON

Response 108

Your concern regarding the review period was acknowledged. On December 13, 2005, the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

COMMENTER 266 ESTER CERVANTES

Response 109

Table 3.2-16 in Section 3.2 of the EIR shows that there is a positive impact (the future risk is greater than the existing conditions) on the adult resident under the 2011 Optimized Flights Scenario and a negative impact (the future risk is less than the existing conditions) under the 2020 Optimized Flights Scenario. Section 3.2.2 defines the CEQA significance thresholds that were used to determine whether the project would result in an air quality impact. The significance threshold for carcinogenic risk is 10 in one million (10^{-5}) and for a noncarcinogenic hazard is unity (one). Based on these thresholds, the positive impact shown in Table 3.2-16 was less than significant.

Risk assessments estimate potential health impacts using environmental data and exposure assumptions (e.g., lifetime exposure). Due to the many variables involved in calculating risk, there are inherent uncertainties. In order to avoid underestimating chemical exposure, the health risk assessment prepared for the Draft EIR estimated risks for the maximally exposed individual (MEI), a hypothetical individual that lives, works, or goes to school at a location with the highest predicted concentrations of TAC in air, and who has other characteristics, such as inhalation rate and years of exposure, that result in maximum intake of TAC. In addition, toxicity criteria used in all health risk assessments are developed to be protective of groups that may be exceptionally sensitive to a chemical, such as children and the elderly. The result is a conservative estimate of potential health impacts associated with the Project. Health risk assessment is the appropriate tool to evaluate whether estimated future emissions associated with the Project may potentially result in human health impacts.

In order to properly interpret the meaning of these calculated results, the EPA and CEQA Guidelines established thresholds of significance to determine what levels of risk are acceptable. A positive impact does not necessarily indicate an unacceptable risk or hazard.

Response 110

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

Response 111

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 267 STEVE RIVERO

Response 112

Your concern regarding the review period was acknowledged. On December 13, 2005 the Long Beach City Council extended the public review period until January 30, 2006. This provided an 84-day public review period for the Draft EIR, which far exceeds the requirements of CEQA and what is generally provided for projects.

3.11 RESPONSES TO COMMENT CARDS RECEIVED ON DECEMBER 05, 2005

COMMENTER 268 SANDRA GIBBONS

Response 1

Please see Topical Response 3.1.5 pertaining to the methodology for the human health risk assessment.

Response 2

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal. In addition, please see Topical Response 3.1.1, regarding the relationship of improvements to increased flights.

COMMENTER 269 ANN KRESL

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 270 VIVIAN J. MCKEE

Response 1

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

Response 2

The DEIR does address potential project on schools and the surrounding community. Potential air quality impacts are contained in Section 3.2, land use impacts are discussed in Section 3.5, and noise impacts are discussed in Section 3.6. It bears noting that the Proposed Project involves just the physical improvements to the Airport. It does not modify the Airport Noise Compatibility Ordinance or provide any improvements that would result in an increase in the number of flights. CEQA does not require the evaluation of property values; however, in the past the City has conducted studies on real estate values and did not find a substantial impact as a result of the Airport.

COMMENTER 271 NANCY PFEFFER

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

Response 2

The Airport Noise Compatibility Ordinance, which has been adopted as Chapter 16.43 of the City's Municipal Code, establishes a minimum number of flights that the City must allow for both commercial carriers and commuter flights. As discussed on pages 2-2 and 2-3 of the Draft EIR, Chapter 16.43 of the Municipal Code permits air carriers to operate a minimum of 41 airline flights per day while commuter carriers are permitted to operate a minimum of 25 flights per day.

The City of Long Beach adopted an Airport Noise Compatibility Ordinance that includes two major components. The first establishes Single Event Noise Exposure Level (SENEL) for aircraft operating into and out of the Airport. The second establishes a noise budget for the various categories of aircraft at the Airport. The Airport Noise Compatibility Ordinance allows that the permitted number of flights per day to be increased in each operator flight restriction category as long as the flights operate below the CNEL budgets.[158] In order for the number of flights to be increased and still comply with the Airport Noise Compatibility Ordinance, the airlines would have to optimize their flight operations. This would include using quieter aircraft and reducing the number of late night operations. These optimal conditions have never been achieved at the Airport.

COMMENTER 272 DODIE SOTO

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 273 JOSEPH VALLES

Response 1

The fiscal considerations of the project are not a topic pursuant to CEQA. The EIR addresses potential physical impacts.

COMMENTER 274 UNKNOWN

Response 1

Please see Topical Response 3.1.5 pertaining to the methodology used for the air quality and the human health risk assessment.

3.12 RESPONSES TO ORAL COMMENTS RECEIVED DECEMBER 15, 2005

COMMENTER 275 LESLIE GENTILE, CULTURAL HERITAGE COMMISSION

Response 1

The number of parking spaces required was calculated from a professional parking study titled *Long Beach Airport Parking Adequacy Analysis*, which was conducted for the City in 2001. The study showed a need for 2.75 parking spaces for each 1,000 annual enplanements.

Response 2

Topical Response 3.1.8 provides a detailed discussion regarding the placement of the proposed parking structure and its potential visual impacts It should also be noted that the proposed parking structure would be consistent with the Long Beach General Plan's land use designations and the Long Beach Zoning Ordinance's land use classifications pertinent to the site upon which it would be constructed and would comply with Federal Aviation Administration standards and requirements.

[158] The Airport Noise Compatibility Ordinance is provided as an attachment in Appendix F and can also be viewed at the Airport web site at www.lgb.org.

Response 3

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

Response 4

The change in the shape in the noise contour is due to fact that, for current operations, the noise budget is limited by departure noise from the two noisiest aircraft in the air carrier fleet, the MD80 and B727. The aircraft are very noisy on departure. The MD80 is, however, comparatively quiet on arrival. When the fleet is optimized and the newer aircraft replace the older MD80s and B727s, the departure noise is reduced substantially because the new aircraft are much quieter on departure. But the arrival noise increases because the aircraft that replace the MD80 are noisier on arrival. The limiting factor for the noise budget becomes arrival noise. The result is that north of the Airport (the primary departure end) the contours get smaller and south of the Airport (the primary arrival end) the contours get larger.

COMMENTER 276 MIKE BURROUGHS, CULTURAL HERITAGE COMMISSION

Response 5

As stated at the December 15, 2005, meeting, SCAQMD's significance thresholds are exceeded under the Optimized Flights Scenario. Therefore the Draft EIR proposes a number of mitigation measures to reduce those impacts. The air quality mitigation program begins on page 3.2-50 of the Draft EIR.

Response 6

As stated at the December 15, 2005, meeting, the emissions from aircraft are subject to EPA regulations and the local jurisdictions do not have control authority over the aircraft.

Response 7

The SCAQMD and ARB have attempted to force U.S. Environmental Protection Agency (USEPA) to control aircraft emissions through the Air Quality Management Plan (AQMP) development process. For example, the Final 1994 AQMP included Control Measure No. MOF-06 "Control of Emissions from Aircraft and Ground Support Equipment." This measure was focused on NO_x and VOC emissions from aircraft and GSE, and would have required USEPA to promulgate new emission standards for aircraft. However, USEPA determined that SCAQMD did not have the authority to direct the federal government to develop such standards. Instead, USEPA opened a public consultative process with the stakeholders (primarily SCAQMD, ARB, USEPA, FAA, airlines, and environmental NGOs) to identify other sources and means of achieving similar emission reductions. The Final 1997 AQMP also included aircraft emission control though ARB Control Measure M15 "Aircraft National Emission Standards," which included reductions of NO_x, VOC, and CO. Again, USEPA has rejected this measure due to the ARB's lack of authority to assign control requirements to the federal government. In the 2003 AQMP, SCAQMD has identified an amount of emission reductions needed from state and federally regulated sources, although specific control measures and sources to be controlled are not listed.

None of these control measures have addressed particulate matter (PM) from aircraft, primarily because no good measurements of commercial aircraft PM emissions are available. To reconcile this lack of information, USEPA, NASA, and FAA have begun testing aircraft engines

for PM emissions. These studies include the completed EXCAVATE and APEX I measurement campaigns, the APEX II campaign, which was completed in 2005 (data reduction from this campaign is ongoing at this time), and the planned APEX III campaign. However, it will be some time before the data from these studies can be used to estimate aircraft contributions to $PM_{2.5}$ and PM_{10} concentrations near airports. In the mean time, the FAA has developed the First Order Approximation (FOA) for estimating PM emissions from aircraft engines. Please see Topical Response 3.1.5 for a discussion of aircraft PM emission factors.

Finally, the PM_{10} significant impact associated with the Long Beach Airport Terminal Improvement Project air quality analysis is due not to aircraft emissions, but to re-entrained road dust. The finding that re-entrained road dust is the significant source of PM_{10} impact near the airport is consistent with the findings in the SCAQMD study "Inglewood Particulate Fallout Study Under and Near the Flight Path to Los Angeles International Airport," prepared in September 2000. In light of this information, the City has proposed additional control measures to reduce particulate matter impacts from various sources – including additional street sweeping/cleaning of roadways on airport property (please see new Mitigation Measures MM 3.2-10a, 3.2-16, and 3.2-17 in Section 4.0). The following mitigation measure is hereby added to the FEIR as MM 3.2-17:

MM 3.2-17 The City will require street cleaning of Douglas Drive with a vacuum type street sweeper at least once per week. The vacuum sweeper will make sufficient circuits through the terminal area to vacuum the entire street surface (not just the gutter area) to reduce fugitive PM emissions from re-entrained road dust. Douglas Drive between Lakewood Boulevard and the Long Beach Airport terminal (including the loop in front of the terminal and return) shall be cleaned in this manner. The anticipated future exit road back to Lakewood Boulevard would also be cleaned in this manner.

The range of potential control efficiencies for this mitigation measure is from approximately 10 percent to 50 percent[159,160]. It is anticipated that a 75 percent reduction would be needed to reduce the peak incremental PM_{10} concentration below the significance threshold; therefore, PM_{10} concentrations would remain significant after implementation of this mitigation measure.

Response 8

No other concepts were explored. It should be noted that changes in how the airport/terminal operates today preclude going back to an earlier plan and that the original horseshoe design, if implemented, would significantly impact both the existing MillionAir and Gulfstream sites.

Response 9

As discussed in Section 3.3 of the Draft EIR, the Long Beach Terminal Building was designated as a local Heritage Landmark. The City has adopted guidelines to minimize impacts to the historic integrity that may occur as a result of modifications to the Terminal Building. The Proposed Project, with implementation of mitigation measures, is able to reduce impacts to less than significant while still allowing the terminal area improvements and keeping the historic

[159] Cowherd, C., P. Englehart, G.E. Muleski, J.S. Kinsey, and K.D. Rosbury, 1990. Control of Fugitive and Hazardous Dusts, Noyes Data Corporation, Park Ridge, NJ. p.21.

[160] "Improvement of Specific Emission Factors (BACM Project No. 1) Final Report," by Midwest Research Institute for SCAQMD, Diamond Bar, CA, March 29, 1996.

buildings as the main architectural feature on the approach to the Airport from Donald Douglas Drive.

The Commenter refers to unused open space north and south of the current terminal building. In the concept plan, these areas would be used for air carrier aircraft parking (to the north) and baggage make-up and baggage claim (to the south).

Response 10

The analysis of the Proposed Project does indicate that historic materials could be removed, but this would be minimal and would be limited to the corridor walls and roof of the west façade of the Terminal Building, which is a secondary façade. The attaching of the new terminal area includes the removal of a non-original door and original windows, which are also considered character-defining features. Furthermore, the mitigation measures have been designed to require that the new building be consistent with the architectural style of the building and to minimize the removal of historic materials. Where new windows are proposed, the mitigation measures require that new window treatments reference the style of the original windows. This will need to be further evaluated during the design phase of the project to ensure the Proposed Project meets the Secretary of the Interior's Standards for Rehabilitation.

COMMENTER 277 CHUCK GREENBURG, PLANNING COMMISSION

Response 11

The MOU on the rehabilitation or modification of historic building, dates back to May 7, 1990, when the Neighborhood and Historic Preservation Officer for the City of Long Beach prepared a memorandum of understanding (MOU) providing guidelines for future environmental review of the Airport Terminal Building. The MOU, which includes as an attachment the Secretary of the Interior’s Standards for Rehabilitation, was adopted by resolution of the Cultural Heritage Commission. It was subsequently adopted by the City Council. The MOU, including the Secretary of the Interior’s Standards for Rehabilitation provides the guidelines for design and evaluation of the proposed terminal improvements. Clearly, since the MOU was prepared to address all and any improvement to the terminal building, not just the Proposed Project, it would not be possible in a MOU to include all options and alternatives for improvements. Therefore, it provides the parameters on how to evaluate and address historic resources through the design process. The Certificate of Appropriateness, issued by the Long Beach Historical Heritage Commission as part of the site plan review process, is when the project would be evaluated for compliance with these provisions. Because of the broadness of the MOU, it does not substantially constrain the City’s ability to evaluate various design concepts. Therefore, modification of the MOU is not necessary to allow a creative approach to the terminal design.

Response 12

The commenter’s statement is correct.

Response 13

The Planning Commission will consider certification of the FEIR. If the FEIR is certified, the Planning Commission will then, at the same meeting, consider a conceptual site plan of the preferred project alternative. .

Response 14

DEIR Exhibit 2-5 provides the conceptual site plan for the Proposed Project, and Exhibit 2-6 provides elevations of the conceptual design. Both of these documents are included in Section 2 of the DEIR, which is the Project Description. If the Proposed Project is approved, the public will have an opportunity to comment on the site plan at future Planning Commission or City Council meetings as more detailed information regarding the terminal design is reviewed.

Response 15

As previously stated, if the FEIR is certified, the Planning Commission will then, at the same meeting, consider a conceptual site plan of the preferred project alternative.

Response 16

Please refer to Section 2.2.2 of the Draft EIR and Topical Response 3.1.1 for detailed information regarding the Airport Noise Compatibility Ordinance. As stated in the topical response, this EIR does not address impacts associated with an Ordinance amendment. It would not, therefore, be considered adequate for such an action. For this EIR to consider conditions without the Airport Noise Compatibility Ordinance would be speculative. Addressing modifications to the Ordinance would neither be relevant to the project at hand nor serve the interest of the community, which wants the Ordinance maintained.

COMMENTER 278 GARY FRAHM

Response 17

The Planning Commission and Cultural Heritage Commission joint study session of December 15, 2005, was properly agenized and posted on the Long Beach website on December 9, 2005, under the Planning and Building Department, as a regularly scheduled meeting.

Response 18

Please see the responses to Commenter 178 for replies to your questions and comments.

COMMENTER 279 LAURA SELLMER

Response 19

The noise analysis does include noise generated while the aircraft is on the ground. The noise monitoring system records all of the noise that it 'hears' regardless of whether the wheels are on the ground or not. The noise model used to generate the noise contours includes the takeoff roll, landing roll, and thrust reverser noise. The statement "that the noise calculation disregarded the high level of noise when a jet is taking off and landing, when wheels are on the ground" is not true. The person or agency that gave "the public" this information was misinformed.

Response 20

The Draft EIR identified that, if an additional 11 commercial carrier flights were added, then the proposed parking structure would not be sufficient to accommodate the projected passenger levels. The number of parking spaces required was calculated from a professional parking study

entitled *Long Beach Airport Parking Adequacy Analysis*, which was conducted for the City in 2001. The study showed a need for 2.75 parking spaces for each 1,000 annual enplanements.

With respect to the placement of the proposed parking structure and its potential visual impacts, it should be noted that another building used to occupy most of the space where the proposed parking structure would be located. Specifically, up until as recently as 1999, the Executive House Hotel occupied the northeast corner of that site. Therefore, unobstructed views from Lakewood Boulevard toward the Airport terminal have not been available historically. It should also be noted that the proposed parking structure would be consistent with the Long Beach General Plan's land use designations and the Long Beach Zoning Ordinance's land use classifications pertinent to the site upon which it would be constructed and would comply with Federal Aviation Administration standards and requirements.

Response 21

As stated above, number of parking spaces required was calculated from a professional parking study entitled *Long Beach Airport Parking Adequacy Analysis*, which was conducted for the City in 2001. The study showed a need for 2.75 parking spaces for each 1,000 annual enplanements. The trip generation rates used in the study assumed the same relative proportion of drop off trips as exist today.

It should be noted that, as discussed in the Draft EIR (Section 3.8, Transportation and Circulation), by providing additional parking on site, the Proposed Project would reduce the overall number of trips at the Airport because it would eliminate some of the extra trips associated with "meeters and greeters" (i.e., trips associated with having someone drop a passenger off at the Airport and having to come back and pick them up when they return). Fewer trips result in less congestion and fewer air quality emissions.

Response 22

As stated at the December 15, 2005, meeting, the City's Historic Preservation Officer will be reviewing the Draft EIR and providing comments regarding its adequacy in addressing historical resources pursuant to CEQA requirements.

Response 23

As stated at the December 15, 2005, meeting, the Long Beach City Council has adopted a resolution with respect to sustainability and "green" or LEED certified buildings. It is the City's intention to certify the Airport Terminal Improvement project to LEED standards.

Response 24

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 280 MIKE COLE

Response 25

As stated at the December 15, 2005, meeting, the commissioners' comments and questions will be included in the public record.

Response 26

The Draft EIR presents CNEL 60, 65, and 70 CNEL contours in Exhibits 3.6-9 for existing conditions and Exhibit 3.6-14 for the Optimized Flights Scenario. Noise contours in terms of single event noise are plotted in Exhibits 3.6-10a and 3.6-10b and 3.6-11a and 3.6-11b. Single event contours are presented for SENEL values of 85 and 90 dBA.

Response 27

Single event noise levels are presented in four exhibits as described in Response Number 26 above.

Response 28

Please refer to Topical Response 3.1.5 relating to the health risk assessment conducted in conjunction with the Proposed Project.

Response 29

For both the Proposed Project and the Optimized Flights Scenario, only the air quality impacts remained significant after the implementation of the mitigation measures. These were identified as unavoidable, significant impacts. That means that even with the implementation of mitigation measures, the impact would not be reduced to below the threshold of significance that was used for the evaluation. This does not mean that the Proposed Project cannot be approved, but it would require the City to adopt a Statement of Overriding Considerations, which states that the specific economic, legal, social, technological, or other benefits of a Proposed Project outweigh the unavoidable adverse environmental effects.

COMMENTER 281 JOE SOPO

Response 30

As stated at the December 15, 2005, meeting, the purpose of an EIR is to study a proposed project's potentially significant environmental impacts. Once the study has been completed, the EIR recommends mitigation measures to try and reduce those impacts to a level of insignificance. Even though the City tries to incorporate the best mitigation measures possible, it cannot always mitigate below a level of significance. This is especially true with air quality. If project-related impacts cannot be mitigated to a level below significance, then the only way the City Council or Planning Commission can certify the EIR is to adopt a Statement of Overriding Considerations. The City Council or Planning Commission has to make a determination that, on balance, it still makes sense to go forward with the project for social, economic, or other reasons even though the significant environmental effects cannot be reduced to below the threshold of significance.

Response 31

With respect to the placement of the proposed parking structure and its potential visual impacts, it should be noted that another building used to occupy most of the space where the proposed parking structure would be located. Specifically, up until as recently as 1999, the Executive House Hotel occupied the northeast corner of that site. Therefore, unobstructed views from Lakewood Boulevard toward the Airport terminal have not been available historically. It should also be noted that the proposed parking structure would be consistent with the Long Beach General Plan's land use designations and the Long Beach Zoning Ordinance's land use

classifications pertinent to the site upon which it would be constructed and would comply with Federal Aviation Administration standards and requirements.

Response 32

Please see Topical Response 3.1.5 regarding air sampling data near the Airport and measurements collected by others near the Airport.

Response 33

Pursuant to the thresholds of significance applied during preparation of the Draft EIR, the Proposed Project would result in significant impacts associated with aesthetics, air quality, cultural resources, and hazards and hazardous materials. The Optimized Flights Scenario would have significant impacts on air quality, land use, and transportation. These impacts were identified as significant prior to the consideration of the recommended mitigation program. The mitigation program recommended actions that could be taken that would reduce the potential impacts. For both the Proposed Project and the Optimized Flights Scenario only the air quality impacts remained significant after the implementation of the mitigation measures. These were identified as unavoidable, significant impacts. That means that even with the implementation of mitigation measures, the impact would not be reduced to below the threshold of significance that was used for the evaluation.

Response 34

The 60 CNEL contour is plotted over an aerial photograph of the Minnie Gant Elementary School in the top half of Exhibit 3.6-17 of the Draft EIR. Part of the school is inside the 60 CNEL contour and has a noise exposure greater than 60 CNEL (but less than 65 CNEL). Part of the school is outside the 60 CNEL contour and that part has a noise exposure less than 60 CNEL. This school has been identified for the Sound Insulation Program.

Response 35

Your comment is noted and has been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 282 STANLEY POE, CULTURAL HERITAGE COMMISSION

Response 36

Your comment is noted. As discussed in Section 3.3 of the Draft EIR the Long Beach Terminal Building has been designated as a City of Long Beach Cultural Heritage Landmark. Therefore, it is considered a historical resource under the CEQA Guidelines and any substantial adverse change to the significance of the Terminal Building is considered an adverse impact under CEQA. The Proposed Project will retain character-defining features that emphasize the significance of the Terminal Building, as well as maintain its original function. The City has adopted guidelines to minimize impacts to the historic integrity that may occur as a result of modifications to the Terminal Building. The Proposed Project, with implementation of mitigation measures, is able to reduce impacts to less than significant while still allowing the terminal area improvements. The applicability of these measures would have to be determined through the design review process at the Commission, which has the authority to issue a Certificate of Appropriateness for the Proposed Project. It should be noted that the Commission could recommend additional mitigation measures during the review process.

COMMENTER 283 BRIAN ULASZEWSKI, CULTURAL HERITAGE COMMISSION

Response 37

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

With respect to the placement of the proposed parking structure and its potential visual impacts, it should be noted that another building used to occupy most of the space where the proposed parking structure would be located. Specifically, up until as recently as 1999, the Executive House Hotel occupied the northeast corner of that site. Therefore, unobstructed views from Lakewood Boulevard toward the Airport terminal have not been available historically. It should also be noted that the proposed parking structure would be consistent with the Long Beach General Plan's land use designations and the Long Beach Zoning Ordinance's land use classifications pertinent to the site upon which it would be constructed and would comply with Federal Aviation Administration standards and requirements.

3.13 RESPONSES TO COMMENT CARDS RECEIVED ON DECEMBER 15, 2005

COMMENTER 284 DONALD L. BROWN

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.

COMMENTER 285 ERMA KEMP

Response 1

Your comments are noted and have been forwarded to the decision makers as part of the Final EIR submittal.