

# APPENDIX E

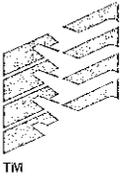
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## Correspondence and Consultation

### E.1 Correspondence and Consultation

This appendix contains copies of correspondence between the Federal Aviation Administration (FAA) and Los Angeles World Airports (LAWA). The following letters and e-mails are provided in this appendix:

- May 1, 2014 letter to Victor Globa (FAA Environmental Protection Specialist) from Scott Tatro (LAWA) regarding recommended INM aircraft substitutions for use in the Los Angeles International Airport 14 CFR Part 150 Noise Exposure Map Update.
- May 22, 2014 letter to Victor Globa from Rebecca Cointin (Federal Aviation Administration, AEE/Noise Division) approving the use of the INM aircraft substitutions proposed by LAWA.
- E-mail from Victor Globa to Kathryn Pantoja (LAWA) transmitting the letter prepared by Rebecca Cointin.
- September 4, 2014 letter from Scott Tatro to Victor Globa requesting FAA's review and approval of a forecast memorandum prepared by ESA Airports.
- October 9, 2014 letter from Jaime Duran (FAA Lead Airport Planner) to Scott Tatro approving the use of the current FAA Terminal Area Forecast (TAF) for the purpose of developing updated noise exposure maps for Los Angeles International Airport.
- May 14, 1985 letter from H.C. McClure (FAA) to Clifton A. Moore (LAWA) transmitting the April 13, 1985 Record of Approval for the Los Angeles International Airport 14 CFR Part 150 Noise Compatibility Program.



Los Angeles  
World Airports

May 1, 2014

Mr. Victor Globa  
Environmental Protection Specialist  
Federal Aviation Administration  
Western-Pacific Region  
15000 Aviation Boulevard  
Lawndale, CA 90261

LAX  
LA/Ontario  
Van Nuys  
City of Los Angeles

Re: **LAX 14 CFR Part 150 NEM Update – Request for INM 7.0d Aircraft Type Substitutions**

Dear Victor:

Eric Garcetti  
Mayor  
Board of Airport  
Commissioners  
Sean O. Burton  
President  
Valeria C. Velasco  
Vice President  
Gabriel L. Eshaghian  
Jackie Goldberg  
Beatrice C. Hsu  
Matthew M. Johnson  
Dr. Cynthia A. Telles  
Gina Marie Lindsey  
Executive Director

Los Angeles World Airports (LAWA) is preparing a FAR Part 150 Noise Exposure Map (NEM) Update for Los Angeles International Airport (LAX) and has obtained the services of ESA Airports, as a subcontractor to Alta Environmental, to do so. Please see the enclosed technical memorandum from ESA Airports recommending INM 7.0d substitutes for use in the LAX FAR Part 150 NEM Update Study.

LAWA requests that the FAA approve these recommended substitutes or provide FAA recommended substitutes for each of the aircraft types. If you have any questions, please contact me or Kathryn Pantoja at 424-646-6501.

Sincerely,

Scott Tatro  
Airport Environmental Manager I

ST:KRP:sts

Enclosure

cc: Kathryn Pantoja





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# technical memorandum

date April 30, 2014  
to Kathryn Pantoja, Los Angeles World Airports, Environmental Affairs Officer  
from Steve Alverson, ESA Airports, National Director  
subject Request for INM 7.0d Aircraft Type Substitutions  
reference Los Angeles International Airport 14 CFR Part 150 NEM Update Study

ESA Airports is assisting Los Angeles World Airports (LAWA) with the preparation of a FAR Part 150 Noise Exposure Map (NEM) Update for Los Angeles International Airport (LAX). The LAX NEM Update is being prepared with the latest release of the Integrated Noise Model (INM), Version 7.0d. Total aircraft operations for CY 2014 are 614,917<sup>1</sup> and projected to be 690,736<sup>2</sup> operations in FY 2019. Upon evaluating the fleet mix, several commercial and general aviation aircraft were identified that do not have a direct INM type or pre-approved Federal Aviation Administration (FAA) substitution defined in the model. Substitutions for most of these aircraft have previously been approved by the Office of Environment and Energy in prior FAR Part 150 studies as shown in Table 1 on the next page. However, there are an additional 19 aircraft which do not have a pre-approved substitution in the INM for which we are proposing aircraft substitutes.

The following is a description of the aircraft listed in Table 1 as well as a suitable substitution based on research of engine and performance characteristics for the FAA's review and approval.

## 1. Boeing 77L and 77W

The Boeing 77L and 77W (B77L) (B77W) are versions of the Boeing 777 aircraft. In researching the (L) and the (W) to determine a suitable INM aircraft substitution to use for the LAX NEM Update; we found that the B77L is the Boeing 777-200LR, and that the B77W is the 777-300ER. Upon evaluation of the INM 7.0d INM Aircraft and INM 7.0d INM Aircraft Substitutions lists, the 7773ER is the suitable substitute aircraft for the Boeing 777-200LR. The 7773ER is also the suitable substitute aircraft for the Boeing 777-300ER.

*We propose to model the Boeing 77L and the Boeing 77W (Boeing 777-200LR and 777-300ER) with the INM type 7773ER.*

<sup>1</sup> <http://aspm.faa.gov/opsnet/sys/Airport.asp>

<sup>2</sup> <http://aspm.faa.gov/apowtaf/>

**Table 1  
Aircraft Types and Recommended INM Substitutions**

<b>Group</b>	<b>Aircraft Code</b>	<b>Aircraft Model</b>	<b>Previously Approved Substitution</b>	<b>Recommended Substitution</b>
Jet	B77L	Boeing 777-200LR	None	7773ER
Jet	B77W	Boeing 777-300ER	None	7773ER
Jet	A333	Airbus 330-200/ CF6-80E1A2	None	A330-301
Jet	A333	Airbus 330-200/Rolls Royce Trent	None	A330-343
Jet	A333	Airbus 330-300/ PW4168	None	A330-301
Jet	A343	Airbus 340-300	None	A340-211
Jet	A345	Airbus 340-500	None	A340-642
Jet	A320neo	Airbus 320neo	None	A320-232
Jet	A350	Airbus 350	None	A330-343
Jet	737Max	Boeing 737Max	None	737700
Jet	DA7X	Dassault Falcon 700X	None	F10062
Jet	GLF6	Gulfstream 650	None	GV
Jet	G280	Gulfstream 280	None	CL601
Jet	LJ40	LearJet 40	None	LEAR35
Jet	C25A/B	Cessna Citation Jets (CJ 1 and 2)	None	CNA525
Jet	E50P	Embraer Phenom 100	None	CNA510
Jet	E55P	Embraer Phenom 300	None	CNA560E
Turboprop	DH8D	Bombardier Q400	None	DHC830
Turboprop	P46T	Piper Malibu Meridian	None	CNA208
Prop	BE35/36	Beechcraft Bonanza	GASEPV	GASEPV
Prop	COL3/4	Cessna Corvallis	GASEPV	GASEPV
Prop	LNC3/4	Lancair Columbia 400	GASEPV	GASEPV
Prop	LEG2	Lancair Legacy	GASEPV	GASEPV
Prop	SR20	Cirrus SR-20	GASEPV	GASEPV

**2. Airbus 330-200 Aircraft, and Airbus 330 Aircraft Equipped with Pratt & Whitney Engines**

The Airbus 330 (A330) is an aircraft that is commonly operated at LAX. Upon review of the INM 7.0d Aircraft Database and Substitutions lists, there are two INM models of the aircraft to be utilized, the A330-301 that is equipped with the General Electric CF6 engines, and the A330-343 that is equipped with the Rolls-Royce Trent engines. However, in reviewing the air carriers utilizing the A330 at LAX, we found that some of the operators utilize the Airbus 330-200 series aircraft, as well as A330 aircraft that are equipped with Pratt & Whitney (PW) 4100 engines.

In finding a suitable substitute for the Airbus 330-200 series aircraft, engine data for each of the air carriers operating the A330 at LAX were identified. We recommend that the engine used by each air carrier be the recommended substitute as explained below.

In finding a suitable aircraft for Airbus 330 aircraft utilizing PW engines, research was conducted to find the engine that most closely represents the PW engine from a thrust and noise stand point. The PW 4100 series engine has a takeoff thrust between 64,000-68,000 lbs. The A330-301 has a takeoff thrust of approximately 65,000 lbs. The Rolls-Royce Trent engine utilized on the Airbus 330 is capable of 75,000 lbs of takeoff thrust. The noise characteristics are also similar between the PW engine and the CFM engine as shown in Table 2 below.<sup>3</sup>

**Table 2  
FAA Noise Certification Data**

Aircraft Data						Noise (EPNdB)		
Manufacturer	Aircraft Model	MTOW (lbs)	MLW (lbs)	Engine Type	Thrust (lbs)	Takeoff	Side-Line	Approach
Airbus	A330-301	507,000	419,000	CF6-80E1A2	65,800	94.2	97.2	98.7
Airbus	A330	507,000	419,000	PW4168	68,000	94.3	98.3	98.0

Source: [https://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/noise\\_emissions/aircraft\\_noise\\_levels/](https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/), Appendix 1

We propose to model the Airbus 330-200 with the INM type A330-301 and A330-343 based on engine type (i.e., Hawaiian Airlines operates the Airbus 330-200 with the Rolls-Royce Trent engines, and therefore will be modeled as the A330-343 INM aircraft that has the noise data for the Rolls-Royce Trent engines).

We propose to model Airbus 330 aircraft utilizing PW engines with the INM type A330-301 that utilize the General Electric CF6 engines as they are more comparable in performance and noise output.

### 3. Airbus 340-300 and Airbus A340-500

The Airbus 340-300 (A343) and the Airbus 340-500 (A345) series aircraft are versions of the Airbus 340 (A340) aircraft that is commonly operated at LAX. Upon review of the INM 7.0d Aircraft Database and Aircraft Substitutions lists, there are two INM models of the aircraft to be utilized, the Airbus 340-211 with General Electric CFM engines, and the Airbus 340-642 with Rolls-Royce Trent engines. In finding a suitable substitute for the A343 and A345 series aircraft, engine data for each of the air carriers operating the A340 at LAX was researched and identified. We found that the air carriers that operated the A343 aircraft utilized the same engine that is utilized by the INM aircraft A340-211 (i.e., the General Electric CFM Engines), and the air carriers that operated the A345 aircraft utilized the same engine that is utilized on the INM aircraft A340-642 (i.e., the Rolls-Royce Trent Engines).<sup>4</sup>

We propose to model the A343 and A345 with the INM type A340-211 and A340-642, respectively, since their engine types match up with aircraft type modeled in the INM.

<sup>3</sup> [http://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/noise\\_emissions/aircraft\\_noise\\_levels/](http://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/)

<sup>4</sup> <http://www.airfleets.net/home/>

#### 4. Airbus 320 New Engine Option

The Airbus 320 New Engine Option (A320neo) is the newest version of the Airbus 320 family and provides a maximum benefit to air carriers with two new jet engine choices, the CFM International’s LEAP-X, and the PW 1100G PurePower engines. Both engines advertise meeting ICAO’s Chapter 14 noise standards; however, there is little information available to determine the best suitable substitute INM aircraft for the A320neo.<sup>5</sup> Therefore, we propose conservatively substituting the A320neo with the Airbus 320-232 with IAE V2500 engines as shown in the certification table below.

Aircraft Data						Noise (EPNdB)		
Manufacturer	Aircraft Model	MTOW (lbs)	MLW (lbs)	Engine Type	Thrust (lbs)	Takeoff	Side-Line	Approach
Airbus	A320-232	171,960	145,510	IAE V2500	26,500	84.9	91.3	94.4
Source: <a href="https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/">https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/</a> , Appendix 1								

We propose to model the A320neo with the INM type A320-232, or request FAA recommend a suitable substitute aircraft.

#### 5. Airbus 350

The Airbus 350 (A350) is Airbus’ latest wide-body aircraft (with seating for 250 to 400 passengers) for medium and long-haul routes. The aircraft will feature two Rolls-Royce Trent Engines producing up to 84,000 lbs of thrust at an aircraft MTOW of approximately 593,000 lbs meeting the latest noise standards.<sup>6</sup> Although there is little information available regarding the noise characteristics of the Airbus 350, we find the aircraft to be most similar to INM aircraft A330-343 with Rolls-Royce Trent 772B engines with a MTOW of 513,677 lbs.

We propose to model the A350 with the INM type A330-343, or request FAA recommend a suitable substitute aircraft.

#### 6. Boeing 737Max

Boeing 737Max (737Max) is the newest version of the Boeing 737 aircraft and provides a maximum benefit to air carriers in efficiency and fuel savings. This aircraft is very similar in shape and design with current Boeing 737 aircraft, but will offer the CFM International’s LEAP-X engine that advertises meeting ICAO’s Chapter 14 noise standards.<sup>7</sup> However, like the Airbus 320neo and Airbus 350, there is very little noise data available to determine the best suitable INM aircraft substitute for the 737Max. Therefore, we propose conservatively substituting the 737Max with the 737700 with CFM-56 engines as shown in the certification table below.

<sup>5</sup> [www.airbus.com](http://www.airbus.com)

<sup>6</sup> <http://www.a350wb.com/#x-tra/technical-specifications>

<sup>7</sup> <http://www.newairplane.com/737max/>

Aircraft Data						Noise (EPNdB)		
Manufacturer	Aircraft Model	MTOW (lbs)	MLW (lbs)	Engine Type	Thrust (lbs)	Takeoff	Side-Line	Approach
Boeing	737700	154,500	129,200	CFM-56	26,300	84.6	94.7	95.9

Source: [https://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/noise\\_emissions/aircraft\\_noise\\_levels/](https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/), Appendix 1

We propose to model the 737MAX with the INM type 737700, or request FAA recommend a suitable substitute aircraft.

## 7. Dassault Falcon 700X

The Falcon 700X is a three-engine aircraft that is comparable to the Falcon 50 or Falcon 900 in airframe characteristics. However, the Falcon 50 and Falcon 900 utilize Honeywell engines (TFE731), while the Falcon 700X utilizes three Pratt & Whitney (PW) 307A engines that are capable of higher thrust output due to the aircraft's heavier weight. Through researching the noise data shown in the table below, we found that the noise data for the Falcon 700X most closely resembled the Falcon 900 that is modeled in the INM as the F10062 aircraft.<sup>3</sup>

Aircraft Data						Noise (EPNdB)		
Manufacturer	Aircraft Model	MTOW (lbs)	MLW (lbs)	Engine Type	Thrust (lbs)	Takeoff	Side-Line	Approach
Falcon	900	45,500	42,000	TFE731	4,750	81.9	89.5	91.7
Falcon	700X	69,000	62,400	PW307A	6,400	83.7	90.3	92.6

Source: [https://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/noise\\_emissions/aircraft\\_noise\\_levels/](https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/), Appendix 1

We propose that since the Falcon 900 is substituted in the INM 7.0d as a F10062, that the Falcon 700X also be substituted as the F10062.

## 8. Gulfstream 650

The Gulfstream 650 (G-VI) jet is the latest version of Gulfstream Aircraft's G-III, IV, and V aircraft. All of these aircraft have similar design, but the latest version (G-VI) has greater range, payload, and overall performance capabilities. The G-VI's performance data includes a Maximum Takeoff Weight (MTOW) of 99,600 lbs, a Maximum Landing Weight (MLW) of 83,500 lbs, and features two Rolls-Royce BR725 engines rated at 16,900 lbs of takeoff thrust each.<sup>8</sup> Through research, we found that there is no noise level certification data published on the FAA's noise certification website for the G-VI; however, we find that this aircraft most closely represents the G-V aircraft which is shown in the table below.

<sup>8</sup> <http://www.gulfstream.com/products/g650/>

### FAA Noise Certification Data

Aircraft Data						Noise (EPNdB)		
Manufacturer	Aircraft Model	MTOW (lbs)	MLW (lbs)	Engine Type	Thrust (lbs)	Takeoff	Side-Line	Approach
Gulfstream	V	90,500	75,300	BR700	14,700	80.3	89.1	90.8

Source: [https://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/noise\\_emissions/aircraft\\_noise\\_levels/](https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/), Appendix 1

*We propose to model the Gulfstream 650 with the INM type GV aircraft.*

### 9. Gulfstream 280

The Gulfstream 280 (G280) is the newest aircraft produced by Gulfstream. The G280 features a MTOW of 39,600 lbs and a MLW of 32,700 lbs, and is powered by two Honeywell HTF7250G engines rated at 7,600 lbs of takeoff thrust each.<sup>9</sup> Through research, it was found that there is no noise level certification data published on the FAA’s noise certification website for the G280; however, we found that this aircraft most closely matches the CL601 aircraft that is shown in the table below.

### FAA Noise Certification Data

Aircraft Data						Noise (EPNdB)		
Manufacturer	Aircraft Model	MTOW (lbs)	MLW (lbs)	Engine Type	Thrust (lbs)	Takeoff	Side-Line	Approach
Bombardier	CL601	42,100	36,000	CF34-1A	8,650	79.4	84.9	89.4

Source: [https://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/noise\\_emissions/aircraft\\_noise\\_levels/](https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/), Appendix 1

*We propose to model the Gulfstream 280 with the INM type CL601 aircraft.*

### 10. LearJet 40

The LearJet 40 is a continuation of the LearJet 31A and LearJet 35 aircraft featuring better performance with a MTOW of 20,350 lbs, a MLW of 19,200, and is powered by two Honeywell TFE 731 engines rated at 3,500 lbs of takeoff thrust.<sup>10</sup> There is no noise level certification data published on the FAA’s noise certification website for the LearJet 40, but we found that the LearJet 40 most closely matches the noise and performance characteristics of the LEAR45 as shown below that is modeled as a LEAR35 in the INM.

### FAA Noise Certification Data

Aircraft Data						Noise (EPNdB)		
Manufacturer	Aircraft Model	MTOW (lbs)	MLW (lbs)	Engine Type	Thrust (lbs)	Takeoff	Side-Line	Approach
Bombardier	LEAR35	20,500	19,500	TFE731	3,500	74.4	85.2	93.4

Source: [https://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/noise\\_emissions/aircraft\\_noise\\_levels/](https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/), Appendix 1

<sup>9</sup> <http://www.gulfstream.com/products/g280/>

<sup>10</sup> <http://jetadvisors.com/learjet-40/>

We propose that since the LearJet 45 is substituted in the INM 7.0d as a LEAR35, that the LearJet 40 also be substituted as the LEAR35.

**11. Cessna Citation Jets 1 and 2 (CJ1 and CJ2)**

The Cessna Citation Jets (CJ1 and CJ2) are part of the Citation Jet family that features Citation Jets 1 through 4. The Citation Jet 4 (CJ4) is listed in the INM as the CNA525 and is just a slightly larger version of the CJ1 and CJ2. The CJ1 and CJ2 feature the same engines as the CNA525, the Williams FJ44 engines. The engines have just been de-rated on the CJ1 and CJ2 due to the lighter weights of the aircraft then the CJ4. Therefore, we feel the CNA525 would be a conservative substitution for the CJ1 and CJ2.

We propose to model the Cessna Citation Jets 1 and 2 with the INM type CNA525 aircraft.

**12. Embraer Phenom 100**

The Phenom 100 is a relatively new entry-level jet that belongs to the very-light jet category of aircraft. The Phenom 100 has a MTOW of 10,472 pounds, a MLW of 9,766 pounds, and is powered by two Pratt & Whitney Canada PW617F-E turboprop engines rated at 1,695 pounds of thrust.<sup>11</sup> The engine and weights are similar to the Cessna Citation Mustang (CNA510) that has a MTOW of 8,645 pounds, a MLW of 8,000 pounds, and is powered by two Pratt and Whitney Canada PW615F turboprop engines rated at 1,460 pounds of thrust.<sup>12</sup> Neither aircraft has noise level certification data published on the FAA’s noise certification website.

We propose to model the Embraer Phenom 100 (E50P) with the INM type CNA510 aircraft.

**13. Embraer Phenom 300**

The Phenom 300 is a new light business jet that recently entered the corporate jet market. The Phenom 300 has a MTOW of 17,968 pounds, a MLW of 16,865 pounds, and is powered by two Pratt and Whitney Canada PW535E engines rated at 3,360 pounds of thrust.<sup>8</sup> The engine and weights are similar to the Cessna Citation Encore (CNA560E) that has a MTOW of 16,630 pounds, a MLW of 15,200 pounds, and is powered by two Pratt and Whitney Canada PW535A engines rated at 2,900 pounds of thrust.<sup>3</sup> Noise data from the FAA noise certification database is listed below.

**FAA Noise Certification Data**

Aircraft Data						Noise (EPNdB)		
Manufacturer	Aircraft Model	MTOW (lbs)	MLW (lbs)	Engine Type	Thrust (lbs)	Takeoff	Side-Line	Approach
Cessna	560 Encore	16,630	15,200	PW535A	2,900	70.30	89.90	90.50

Source: [https://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/noise\\_emissions/aircraft\\_noise\\_levels/](https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/), Appendix 1

We propose to model the Embraer Phenom 300 (E55P) with the INM type CNA560E aircraft.

**14. Bombardier Q400 (DH8D)**

<sup>11</sup> www.embraerexecutivejets.com

<sup>12</sup> www.cessna.com

The Bombardier Q400 is operated by Horizon Airlines at LAX. The aircraft is an extended version of the Bombardier Dash-8-300 aircraft, and can carry up to 80 passengers. The Q400 is quieter than the Dash-8-300 aircraft integrating noise reduction technologies that make it 15 dB quieter than ICAO Stage 4 noise standards.<sup>13</sup> Comparisons between the Dash-8-300 and the Q400 are shown in the table below. Therefore, we recommend to model conservatively using the Dash-8-300 as a substitute for the Q400 since it is a louder aircraft according to the FAA Noise Certification Data.

**FAA Noise Certification Data**

Aircraft Data						Noise (EPNdB)		
Manufacturer	Aircraft Model	MTOW (lbs)	MLW (lbs)	Engine Type	Horse Power	Takeoff	Slide-Line	Approach
Bombardier	Dash-8-300	41,000	40,000	PW123	2,142	84.3	87.4	98.9
Bombardier	Q400	61,700	60,500	PWC150A	5,070	77.1	84.1	94.9

Source: [https://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/noise\\_emissions/aircraft\\_noise\\_levels/](https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise_levels/), Appendix 6

*We propose to model the Bombardier Q400 (DH8D) with the INM type DHC830 aircraft.*

**15. Piper Malibu Meridian**

The Piper Malibu Meridian (P46T) is a single engine turboprop aircraft. Upon evaluating a previously approved substitute for the Malibu Meridian, it was noted that the SD330, a 22,900 pound twin-engine turboprop, has been a previously approved aircraft substitute. We noted with the release of INM 7.0d the Socata TBM 700, a very similar aircraft to the Malibu Meridian, identified the CNA208 as an approved substitute. The Malibu Meridian has a MTOW of 5,134 pounds, a MLW of 4,850 pounds, and is powered by the Pratt & Whitney PT6A-42A rated at 500 Shaft Horse Power (SHP).<sup>14</sup> The Socata TBM 700 aircraft has a MTOW of 6,579 pounds, a MLW of 6,250 pounds, and is powered by the Pratt & Whitney PT6A-64 engine rated at 700 SHP.<sup>15</sup>

**FAA Noise Certification Data**

Aircraft Data						Noise (dBA)		
Manufacturer	Aircraft Model	MTOW (lbs)	MLW (lbs)	Engine Type	SHP	dBA*	TO#	APP#
Cessna	208 Caravan	8,000	7,800	PT6A-114	600 @ 1900 RPM	79	64.9	73

\*U.S. Certified Propeller Driven Small Airplanes (14 CFR Part 36, Appendix G)  
 #Noise Level Data AC36-3H (April 5, 2012)

*We propose that since the TBM 700 is substituted in INM 7.0d as a CNA208, that the Piper Malibu Meridian also be substituted as the CNA208.*

<sup>13</sup> <http://www.bombardier.com/en/aerospace/commercial-aircraft.html>  
<sup>14</sup> <http://www.flyingmag.com/pilot-reports/turboprops/living-piper-meridian?page=0,4>  
<sup>15</sup> <http://www.tbm850.com/Pilot-s-Information-Manual>

We are requesting that LAWA forward this technical memorandum to Victor Globa – Environmental Specialist in FAA’s Western Pacific Region, so that the FAA can approve these recommended INM 7.0d substitutes, or provide FAA recommended substitutes for each of the aircraft types for use in the LAX FAR Part 150 NEM Update Study.

We appreciate your assistance in this matter.



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Office of Environment and Energy

800 Independence Ave., S.W.  
Washington, D.C. 20591

Date: May 22, 2014

Victor Globa  
Environmental Protection Specialist  
Federal Aviation Administration  
15000 Aviation Boulevard  
Lawndale, CA 90261

Dear Mr. Globa,

The Office of Environment and Energy (AEE) received the letter addressed to you from Scott Tatro of Los Angeles World Airports (LAWA) dated May 1, 2014 requesting approval of modeling 24 aircraft types that do not have Integrated Noise Model (INM) standard substitutions. This request is to evaluate noise in support of the Los Angeles International Airport (LAX) Part 150 Noise Exposure Map (NEM) Update.

ESA Airports is assisting LAWA with the preparation of the Part 150 NEM update for LAX using the latest version of INM, Version 7.0d. ESA identified 24 aircraft types that do not have INM standard substitutions. The list of those aircraft is displayed in the table below along with AEE's recommendations.

<b>Aircraft</b>	<b>ESA Proposed Substitution</b>	<b>AEE Recommendation</b>
Boeing 777-200LR	7773ER	Concur
Boeing 777-300ER	7773ER	Concur
Airbus 330-200/CF6-80E1A2	A330-301	Concur
Airbus 330-200/Rolls Royce Trent	A330-343	Concur
Airbus 330-300/PW4168	A330-301	Concur
Airbus 340-300	A340-211	Concur
Airbus 340-500	A340-642	Concur
Airbus 320neo	A320-232	Concur
Airbus 350	A330-343	<b>7773ER</b>
Boeing 737 Max	737700	Concur
Dassault Falcon 700X	F10062	Concur
Gulfstream 650	GV	Concur
Gulfstream 280	CL601	Concur
Learjet 40	LEAR35	Concur
Cessna Citation Jets (CJ 1 and 2)	CNA525	Concur
Embraer Phenom 100	CNA510	Concur

Embraer Phenom 300	CNA560E	Concur
Bombardier Q400	DHC830	Concur
Piper Malibu Meridian	CNA208	Concur
Beechcraft Bonanza	GASEPV	<b>CNA206</b>
Cessna Corvalis	GASEPV	Concur
Lancair Columbia 400	GASEPV	Concur
Lancair Legacy	GASEPV	Concur
Cirrus SR-20	GASEPV	Concur

AEE concurs with all but two of the proposed substitutions. The A350 has several variations and the most conservative substitution for all A350 models would be the Boeing 7773ER. Therefore, AEE recommends the INM type 7773ER as a substitute for the A350. Also, the Beechcraft Bonanza is normally substituted by the INM type CNA206 and AEE continues to recommend the CNA206 as a substitute for the Bonanza. AEE approves the substitutions proposed by ESA with these two exceptions.

Please understand that this approval is limited to this particular project for LAX. Any additional projects or non-standard INM input at LAX will require separate approval.

Sincerely,



Rebecca Cointin, Manager  
AEE/Noise Division

cc: Jim Byers, APP-400

**From:** [Victor.Globa@faa.gov](mailto:Victor.Globa@faa.gov) [mailto:[Victor.Globa@faa.gov](mailto:Victor.Globa@faa.gov)]

**Sent:** Thursday, May 22, 2014 1:04 PM

**To:** PANTOJA, KATHRYN R.

**Cc:** TATRO, SCOTT

**Subject:** LAX Part 150 NEM Update - Request for INM 7.0d Aircraft Type Substitutions

Hi Kathryn – Attached is copy of the response I received from the Office of Environment and Energy (AEE) regarding LAWA's May 1, 2014, request to approve the modeling of 24 aircraft type that do not have INM standard substitutions. AEE approved 22 of 24 substitutions requested. However for the Airbus 350, AEE recommends the 7773ER instead of A330-343; and, for the Beechcraft Bonanza, AEE recommends the CNA206 instead of GASEPV.

If you have any additional questions feel free to e-mail me or give a call.

Victor

Victor Globa  
Environmental Protection Specialist  
Federal Aviation Administration  
15000 Aviation Boulevard  
Lawndale, CA 90261  
310-725-3637  
[victor.globa@faa.gov](mailto:victor.globa@faa.gov)

Los Angeles  
World Airports

September 4, 2014

Mr. Victor Globa  
Environmental Protection Specialist  
Federal Aviation Administration  
Western-Pacific Region  
Los Angeles Airports District Office, LAX-600.3  
P.O. Box 92007  
Los Angeles, CA 90009-2007

LAX

LA/Ontario

Van Nuys

City of Los Angeles

Eric Garcetti  
Mayor

Board of Airport  
Commissioners

Sean G. Burton  
President

Varena C. Velasco  
Vice President

Gaetano F. Fshagorian  
Jack E. Goldberg  
Beatrice C. Hsu  
Matthew M. Johnson  
Dr. Cynthia A. Tello

Gina Marie Lindsey  
Executive Director

Re: Review and Approval of Los Angeles International Airport Part 150  
Noise Exposure Map Update Forecast

Dear Mr. Globa:

Los Angeles World Airports requests the Federal Aviation Administration's review and approval of the 2015 and 2020 operations forecasts for the Los Angeles International Airport Part 150 Noise Exposure Map Update. The attached technical memorandum describes the forecast methodology and comparison results in detail.

If you have any comments or questions related to this request, please feel free to contact me at (424) 646-6499. Thank you for your assistance.

Sincerely,



Scott Tatro  
Airport Environmental Manager I

ST:kp

Enclosure: Technical memorandum

cc: Kathryn Pantoja

# technical memorandum

date September 2, 2014

to Kathryn Pantoja – Los Angeles World Airports  
Environmental Affairs Officer

from Michael Arnold  
Manager of Airport Planning

subject Los Angeles International Airport  
Recommended Forecast for Use in Preparing the LAX FAR Part 150 Noise Exposure Map Update

ESA Airports is currently updating the Noise Exposure Maps for Los Angeles International Airport (LAX). This update includes evaluation of existing operational conditions as well as those anticipated in 2020. The purpose of this technical memorandum is to review the current Federal Aviation Administration (FAA) Terminal Area Forecast (TAF) for LAX to determine if adjustments are necessary based on recent activity trends. This memorandum also includes a comparison of the LAX TAF to operations projections that have been included in environmental documentation prepared for recent LAX capital improvement projects.

## FAA Terminal Area Forecasts

The TAF is an unconstrained forecast of future demand for an airport or air traffic facility that is used by the FAA to project future staffing and facility needs. Forecasts developed independently by airport sponsors are reviewed to determine if they are within 10 percent of the TAF in the five-year period or 15 percent of the TAF in the ten-year period. If the forecasts fall within these ranges, they are considered consistent with the TAF. If not, additional justification is required from the airport sponsor before the forecast can be used for project justification or funding. The TAF is re-indexed each year based on activity that occurred during the previous federal fiscal year (October 1<sup>st</sup> through September 30<sup>th</sup>). While the TAF includes a projection of air carrier and commuter passengers, aircraft operations are of primary interest for the purposes of noise modeling. The current TAF was issued by the FAA in February 2014. LAX's portion of the TAF is outlined in **Table 1**.

**TABLE 1**  
**FAA TERMINAL AREA FORECAST - OPERATIONS**  
**LOS ANGELES INTERNATIONAL AIRPORT**

Year (Federal Fiscal)	Air Carrier	Air Taxi	General Aviation	Military	Total
<b>2009</b>	436,149	89,916	15,813	2,736	544,614
<b>2010</b>	452,918	95,187	20,039	2,829	570,973
<b>2011</b>	468,763	106,471	18,549	2,411	596,194
<b>2012</b>	481,325	106,722	18,165	2,634	608,846
<b>2013</b>	491,693	93,768	18,333	2,554	606,348
<b>2014*</b>	501,170	95,000	18,430	2,544	617,144
<b>2015</b>	513,784	96,263	18,592	2,534	631,173
<b>2016</b>	526,526	97,541	18,755	2,524	645,346
<b>2017</b>	539,793	99,113	18,919	2,514	660,339
<b>2018</b>	553,469	100,423	19,085	2,504	675,481
<b>2019</b>	567,541	101,449	19,252	2,494	690,736
<b>2020</b>	581,708	101,641	19,421	2,484	705,254

SOURCE: FAA February 2014 TAF  
\*estimated

The current TAF projects an increase in air carrier activity of 90,000 operations between 2013 and 2020 at LAX and a total increase of nearly 100,000 operations during the same period to just over 705,000 total operations at LAX by 2020.

## Review of Recent Airport Activity

A review of recent activity was conducted to determine if the current LAX TAF was consistent with recent airport trends and continues to be representative of the dynamic airport environment. **Table 2** outlines activity levels at LAX for the 12-month period ending April 2014.

**TABLE 2**  
**OPERATIONAL ACTIVITY FOR 12-MONTH PERIOD ENDING APRIL 2014**  
**LOS ANGELES INTERNATIONAL AIRPORT**

Period	Air Carrier	Air Taxi	General Aviation	Military	Total
<b>12 months ending April 2014</b>	513,624	91,445	18,227	2,325	625,621

SOURCE: FAA Air Traffic Activity System (ATADS)

Comparing the activity for the 12-month period ending in April to the most recent TAF (Table 1), ESA Airports determined that total aircraft activity is tracking nearly 8,500 operations or 1.4 percent ahead of the FAA's 2014

projection. Air carrier activity is tracking about 2.5 percent ahead of projections, while air taxi activity is tracking about 4 percent below projections. GA and military operations are relatively consistent with the FAA's LAX TAF projections. These variances are well within the FAA's 10 percent guidance for determining forecast consistency within the five-year timeframe and would be expected to have a negligible impact on contour size and shape.

## Comparison to Recent Activity Forecasts

In reviewing the TAF, we noted that there were two recent studies that included activity projections for LAX. These include the:

- Specific Plan Amendment Study (SPAS) Operational Analysis - prepared Ricondo and Associates, July 2012; and the
- Runway 7L/25R Runway Safety Area (RSA) Environmental Assessment (EA), Appendix B, Noise Technical Report - prepared by Ricondo and Associates, August 2013.

The SPAS Operational Analysis focused on 2009 and 2025 design-day passenger activity levels. An operations forecast was not part of the SPAS analysis. The SPAS forecasts developed design-day flight schedules (DDFS), which were based on peak-month, average-day flight schedules (PMAD). Because annual operations statistics were not developed as part of the SPAS forecast, activity levels could not be directly compared. For the purposes of comparing to the adjusted TAF, the 2020 operations levels were estimated based on a prorated growth assumption and the 2009 operations relationships to the 2009 DDFS. The SPAS analysis projected an increase in the design-day flight schedule from 1,563 operations to 2,053 operations by 2025. It also cites a FY 2009 total activity level of 561,989 total annual operations. However, page 14 of the SPAS analysis indicates that August's peak month operations of 48,448 represent 8.9 percent of the total annual activity. This relationship holds true for the 544,833 operations experienced in 2009 calendar year, but not the 561,889 operations referenced earlier in the report. Therefore, the comparison to the TAF was based on PMAD relationship consistent with the lower activity level. Assuming a similar relationship between the 2,053 PMAD operations estimated for 2025 results in 715,712 total operations without adjustments for fleet or load factor. This can be prorated to approximately 657,226 operations in 2020.

The 2013 Runway 7L/25R RSA EA used 593,593 as its baseline 2011 operational level for the purposes of developing noise contours. It used the March 2012 FAA TAF operational projections of 637,903 and 705,281 for 2015 and 2020, respectively.

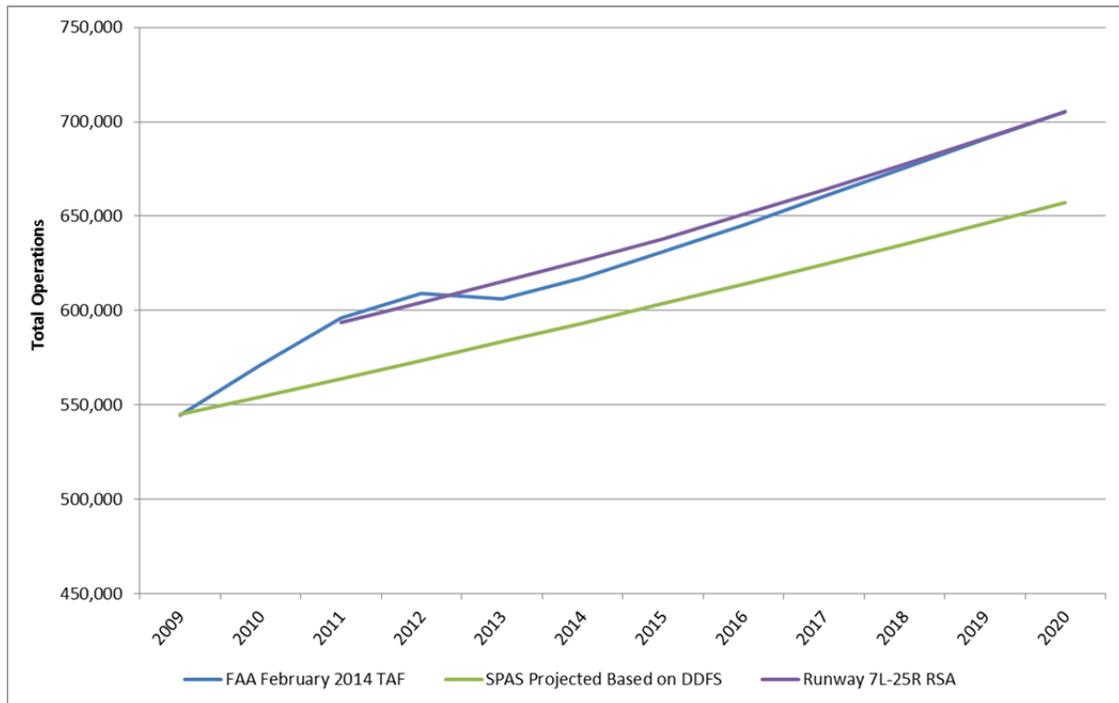
**Table 4** compares the current FAA TAF and the Adjusted TAF to the SPAS and Runway 7L-25R projections. **Figure 1** presents this information graphically.

**TABLE 4**  
**FORECAST COMPARISON**  
**LOS ANGELES INTERNATIONAL AIRPORT**

Year (Federal Fiscal)	FAA February 2014 TAF	SPAS Projected Based on DDFS	Runway 7L-25R RSA
<b>2009</b>	544,614	544,833	
<b>2010</b>	570,973	554,202	
<b>2011</b>	596,194	563,732	593,593
<b>2012</b>	608,846	573,426	604,373
<b>2013</b>	606,348	583,287	615,349
<b>2014*</b>	617,144	593,317	626,525
<b>2015</b>	631,173	603,520	637,903
<b>2016</b>	645,346	613,898	650,843
<b>2017</b>	660,339	624,454	664,045
<b>2018</b>	675,481	635,193	677,515
<b>2019</b>	690,736	646,115	691,259
<b>2020</b>	705,254	657,226	705,281

SOURCE: FAA February 2014 TAF, FAA ATADS, SPAS Operational Analysis Runway 7L/25R Runway Safety Area (RSA) Environmental Assessment ESA Airports

**FIGURE 1  
LAX OPERATIONS FORECAST COMPARISON**



## Conclusions and Recommendations

Review of the existing LAX TAF, the forecasts used for recent capital projects, and the most recent 12 months of LAX operational information results in the following conclusions:

- The LAX TAF is within 1.4 percent of the most recent 12 months of activity at the airport and therefore falls well within FAA TAF consistency guidelines of 10 percent in the 5 year period and 15 percent in the ten-year period.
- The 2020 projected activity level in the LAX TAF is virtually identical to the 2020 forecast activity level used for the 2013 Runway 7L-25R RSA Environmental Assessment and is generally consistent with the activity projected in the SPAS.

Based on these conclusions, ESA Airports recommends that the current TAF be used for the purposes of developing the updated FAR Part 150 Noise Exposure Maps for LAX.



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Federal Aviation Administration  
Los Angeles Airports District Office

P.O. Box 92007  
Los Angeles, CA 90009-2007

October 9, 2014

Mr. Scott Tatro  
Airport Environmental Manager  
Los Angeles World Airports  
Environmental Services Division  
1 World Way, P.O. Box 92216  
Los Angeles, CA 90009

Los Angeles International Airport (LAX)  
Airport Part 150 Noise Exposure Map Update Forecast Approval

Dear Mr. Tatro:

The Federal Aviation Administration (FAA) has completed the review of the Technical Memorandum dated September 4, 2014. The report recommends the use of the current FAA Terminal Area Forecast (TAF) for the purpose of the developing the updated FAR Part 150 Noise Exposure Maps at LAX. We approve the use of the TAF forecasts for your proposed Part 150 Study.

The Technical Memorandum compared the activity for the 12-month period ending in April 2014, to the most recent TAF and found that operations were 1.4 percent ahead of the FAA's projection. In addition, the Specific Plan Amendment Study Operational Analysis and the Runway 7L/25R Runway Safety Environmental Assessment, Appendix B, Noise Technical Report forecasts were both within 10 percent of the TAF in the 5-year forecast period, which is our standard for determining TAF consistency at the 5-year point.

If you have any questions in regards to this forecast approval, please call me at 310-725-3630.

Sincerely,



Jaime Durán  
Lead Airport Planner



US Department  
of Transportation  
  
Federal Aviation  
Administration  
**MAY 14 1985**

Western-Pacific Region

P.O. Box 92007  
Worldway Postal Center  
Los Angeles, CA 90009

Mr. Clifton A. Moore  
General Manager  
Los Angeles Department of Airports  
One World Way, Fourth Floor  
Los Angeles, California 90009

Dear Mr. Moore:

The Federal Aviation Administration (FAA) has evaluated the noise compatibility program for Los Angeles International Airport (LAX) contained in the Noise Control and Land Use Compatibility (ANCLUC) Study and related documents submitted to this office under the provisions of Section 104(a) of the Aviation Safety and Noise Abatement Act of 1979 (the Act). The recommended noise compatibility program proposed by the Department of Airports for LAX is identified by action element number on Pages 13 through 27 of the ANCLUC Study, Phase Three Report, Volume I. I am pleased to inform you that the Administrator has approved 28 of the 40 proposed action elements in the noise compatibility program, in full or in part. The specific FAA action for each noise compatibility program element is set forth in the enclosed Record of Approval. The effective date of this approval is April 13, 1985.

Three action elements, A.5, C.1b and C.9 have been disapproved pending submission of additional information to FAA. These elements have been disapproved because they were not described in sufficient detail to allow an informed analysis by the FAA under Section 104(b) of the Act. These disapprovals do not reflect FAA opposition to the noise mitigation objectives of the proposals nor of the concepts on which they are based. Rather, the Act contemplates FAA action to either approve or disapprove a noise compatibility program within the statutory 180-day period allowed for FAA review. These actions may be reconsidered by the FAA if developed in greater detail and submitted to the FAA under Part 150.

Action elements F.5, G.1c, and the second portion of G.1f have been disapproved for the following reasons. Element F.5 involves regulating the establishment and operation of new helicopter landing facilities in communities north and south of LAX. This action element is inappropriate for FAA's approval with respect to the LAX Part 150 program because it does not involve LAX itself nor is there evidence that it would reduce noncompatible uses within the area of LAX's noise impact. Further, Section 150.3 states that FAR Part 150 is not applicable to airports used exclusively by helicopters. Element G.1c is disapproved since it involves the implementation of a passenger facility charge which is currently prohibited by Federal law. The next element disapproved, G.1f, would establish a commitment by FAA with respect to the funding of elements in the

LAX noise compatibility program. This would be contrary to Section 150.5(b) which clearly indicates that FAA's Part 150 approval action is neither a commitment to financially support the implementation of a program nor a determination that measures in the program are eligible for grant-in-aid funding from FAA.

Two action elements, B.1 and C.8, relate to the use of flight procedures for noise mitigation which have been determined to require further FAA evaluation. The Act provides that such measures are not subject to the 180-day review period applicable to all other proposed actions. No action is required by you at this time on these elements. There is no action required on four other action elements (C.4, C.5, G.1a, and the first portion of G.1f) because they are not program recommendations. Elements C.4 and C.5 simply provide information that two alternative measures were not recommended as part of the program in accordance with Section 150.23(e)(2). Element G.1a and the first portion of G.1f provide information on local funding arrangements in accordance with Section 150.23(e)(8). All the approval and disapproval actions are more fully explained in the enclosed Record of Approval.

In addition to completing FAA's responsibility for issuing a Part 150 determination within the statutory 180-day review period, FAA's determination on the LAX Part 150 program fulfills the condition of a 1980 environmental impact statement (EIS). On June 3, 1983, a revision to the condition was approved by FAA, after concurrence by the Office of the Secretary of Transportation. The approval stated that:

"The proposed revision will allow Federal assistance to be provided for reconstruction of Runway 25L/7R at LAX as described in the EIS by altering the timing of the approval of a noise mitigation package and by requiring that package to be submitted and approved under FAR Part 150, rather than as an addendum or supplement to the 1980 EIS. A grant for Federal assistance shall include a provision that the City of Los Angeles complete in a timely manner the Noise Control/Land Use Compatibility Study now underway, and submit it as a Noise Compatibility Program for FAA approval pursuant to the provisions of FAR Part 150 and the Aviation Safety and Noise Abatement Act of 1979 as early as possible. Approval of the Part 150 program will fulfill the intent of the condition in the concurrence memorandum of December 11, 1980."

Each airport noise compatibility program developed in accordance with FAR Part 150 is a local program, not a federal program. The FAA does not substitute its judgement for that of the airport proprietor with respect to which measures should be recommended for action. The FAA's approval or disapproval of FAR Part 150 program recommendations is measured according to the standards expressed in Part 150 and the Aviation Safety and Noise Abatement Act of 1979, and is limited to the following determinations:

The noise compatibility program was developed in accordance with the provisions and procedures of FAR Part 150;

Program measures are reasonably consistent with achieving the goals of reducing existing noncompatible land uses around the airport and preventing the introduction of additional noncompatible land uses;

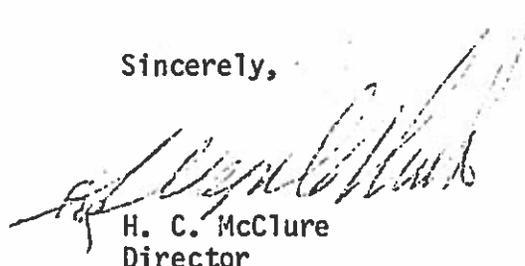
Program measures would not create an undue burden on interstate or foreign commerce, unjustly discriminate against types or classes of aeronautical uses, violate the terms of airport grant agreements, or intrude into areas preempted by the Federal Government; and

Program measures relating to the use of flight procedures can be implemented within the period covered by the program without derogating safety, adversely affecting the efficient use and management of the Navigable Airspace and Air Traffic Control Systems, or adversely affecting other powers and responsibilities of the Administrator prescribed by law.

Specific limitations with respect to FAA's approval of an airport noise compatibility program are delineated in FAR Part 150, Section 150.5. Approval is not a determination concerning the acceptability of land uses under federal, state, or local law. Approval does not by itself constitute an FAA implementing action. A request for federal action or approval to implement specific noise compatibility measures may be required, and an FAA decision on the request may require an environmental assessment of the proposed action. Approval does not constitute a commitment by the FAA to financially assist in the implementation of the program nor a determination that all measures covered by the program are eligible for grant-in-aid funding from the FAA under the Airport and Airway Improvement Act of 1982. Where federal funding is sought, requests for project grants must be submitted to the FAA Western-Pacific Region, Airports Division.

The FAA will publish a notice in the Federal Register announcing approval of the LAX noise compatibility program. You are not required to give local official notice, although you may do so if you wish. Thank you for your continuing support and active interest in airport noise abatement and noise compatibility planning.

Sincerely,



H. C. McClure  
Director

Enclosure

RECORD OF APPROVAL  
LOS ANGELES INTERNATIONAL AIRPORT  
NOISE COMPATIBILITY PROGRAM

ON AIRPORT ELEMENTS

Action  
Element

(Note: Many of the initial descriptions of the action elements which follow are abridged to permit a more concise Record of Approval. The full wording of each element, together with references for greater detail, is given in exhibit D, pages 13-27, which for purposes of FAA action are considered the program recommendations.)

A. Airport Noise Monitoring, Management, and Coordination

- A.1 Emphasize noise abatement and enforcement activities as a priority function under the responsibility of the Deputy General Manager in Charge of Operations.

Approved. This is a local administrative action within the authority of the Department of Airports (DOA). Implementation is aimed at increasing the effectiveness and accountability of this function.

- A.2a Develop computer-based noise performance/management system in the short-range (1984-86) implementation phase.

Approved. This action would develop a system with the capability to monitor progress in noise reduction as well as identify problem areas that would benefit from additional mitigation or corrective actions.

- A.2b Install computer-based noise performance/management system to monitor implementation of the Noise Compatibility Program (NCP) elements and to refine NCP elements as appropriate based on the ongoing monitoring and noise modeling program.

Approved. This element would operationalize and refine the system developed in A.2a.

- A.3 Develop an ongoing airport/community compatibility forum in the short-range (1984-86) implementation phase and continuing through the medium and long-range phases.

Approved. This is the mechanism by which progress will be evaluated and revisions to the NCP developed. Representatives on the forum will be local elected officials, aviation industry representatives, airport officials and the FAA.

- A.4 Actively pursue amendment of California Airport Noise Standards during the short-range (1984-86) implementation phase to augment the definition of compatible land use.

Approved. The city has indicated that this action is to request the State of California to revise existing regulations covering state airport noise standards and definitions of compatible land uses. The concept implied here is that a consolidated effort under the aegis of an approved NCP would be more effective in achieving the revisions sought. This is a matter of local discretion; no Federal action or authorization is necessary. This approval does not endorse the amendment. Approval simply acknowledges that the proposed amendment would contribute to the reduction of noncompatible uses.

- A.5 The General Manager, with the help and cooperation of the Federal Aviation Administration (FAA), [will] develop a report showing how and to what extent ARTS III A data may be used in a program for identifying early turns and drifts in the short range. (Short range 1984-86)

Disapproved pending submission to FAA under Part 150 of program details sufficient to permit an informed analysis under section 104(b) of the Aviation Safety and Noise Abatement Act of 1979. The actual release of ARTS III A data by FAA for noise abatement and monitoring purposes is not contemplated at this time. The degree to which FAA could make certain data available for study purposes would depend upon submission of a more specific proposal from the city. Not enough information is furnished at this time.

B. Flight Procedures Changes: (Items excluded from 180-day requirement)

- B.1 Request that the FAA extend the Over Ocean Operation procedures in the following increments:

- 1 hour increase, 11 p.m. to 6:30 a.m. from 12 p.m. to 6:30 a.m., if compatible with the needs of air traffic control in the short range.
- Additional 1-1/2 hour increase, 10 p.m. to 7 a.m. from 11 p.m. to 6:30 a.m. (total increase of 2.5 hours), if the air traffic system safety tolerance is not affected. This action would occur in the medium range.

No Action Required at this Time. This relates to flight procedures for the purpose of section 104(b) of the Aviation Safety and Noise Abatement Act of 1979 and will receive further FAA review before approval or disapproval. Existing noise abatement procedures at LAX include "over ocean operations" from 12 midnight until 6:30 a.m. Weather and other factors permitting, departures take off to the west and arrivals land from the west. Landing periods alternate with takeoff periods, and each is separated by periods of no activity.

It is estimated that expansion of over ocean procedures would remove approximately 1500 dwelling units from within the 65 CNEL (Ldn) contour. Additional relief would be realized through the reduction of overflights in areas east of the airport during these hours.

Operational capacity is restricted during over ocean operations and pilots groups (i.e., ALPA; see exhibit D, attachment D-1) have objected to use of the procedure without what they consider to be adequate safeguards. Comments from air traffic control experts indicate opposition to expanding the hours of over ocean operation because of expected increases in air traffic delay and in controller coordination activity.

These are critical concerns leading the FAA to the determination that this issue requires further study.

C. Airport Noise Limits, Use Restrictions, Technological Advances

C.1a Maintain existing policy pertaining to SST access prohibition.

Approved. There is no ordinance or other airport rule in place to implement or enforce this policy with explicit reference to SST's. Board of Airport Commissioners Resolution No. 5456 (Oct. 22, 1969) stated that no commercial aircraft would be permitted to use LAX if it generated more noise than a Boeing 707-320-C. Resolution No. 8661 (Oct. 30, 1974) expresses Board's desire that FAR Part 36 noise certification standards be established for SST aircraft. Resolution No. 9022 (Apr. 28, 1975) expresses opposition to use of LAX by SST aircraft unless they meet FAR Part 36 requirements. A noise regulation in Los Angeles City Ordinance No. 152,455 (May 31, 1979), was adopted pursuant to Board Resolution No. 11650 (May 7, 1979).

This noise regulation establishes noise limits and a phased compliance schedule essentially consistent with FAR's 36 and 91. Aircraft operators may, until January 1, 1985, use the airport if their aircraft will not exceed established noise limits on approach or departure. No aircraft type or model is named in the regulation, but the effect is to bar access to the noisiest aircraft, including the SST.

Since adoption of this ordinance, only one operator has inquired about SST access to LAX. This was in conjunction with a proposed flight from New York to Los Angeles, Honolulu, Los Angeles, and Washington, D.C., to be completed in less than 24 hours. The local regulation was not challenged, however, because the proponent withdrew his proposal when FAA denied his petition for a waiver from the ban on supersonic flight over the continental United States as stated in 14 CFR 91.55 (Federal Register, October 27, 1983). See exhibit D, attachment D-3.

- C.1b Maintain the LAX Noise Regulation modified FAR Part 36 compliance schedule.

Disapproved pending submission to FAA under Part 150 of program details sufficient to permit an informed analysis under section 104(b) of the Aviation Safety and Noise Abatement Act of 1979. This regulation does not permit operations at LAX by certain two-engine turbojet aircraft which have received an FAA exemption under FAR Part 91.307 to provide service to small communities. This exemption was specifically established by section 304 of that ASNA Act. One criteria for the grant of that exemption is that the need for air service justifies the short term (until January 1, 1988) use of Stage I aircraft.

Table IV-3 of the Phase Two Report (exhibit C, page 4-17) shows that in July 1982 there were 528 flights by two-engine turbojet aircraft which may qualify for the small community exemption. This represents 3.9 percent of the monthly total of 13,497 air carrier flights. No analysis is presented which shows the effect of removing these aircraft, so there is no evidence that barring the aircraft will reduce existing noncompatible uses or prevent additional noncompatible uses. Further, there is insufficient analysis on which to base FAA favorable determinations with respect to undue burden on interstate or foreign commerce or unjust discrimination.

- C.1c The Los Angeles Board of Airport Commissioners will transmit to the FAA its proposed position on FAR Part 36, Stage III aircraft.

Approved. The FAA will consider the merits of the concept to retire or retrofit Stage II aircraft under a Federal regulatory schedule. A notice of petition for rulemaking to that effect was published in the Federal Register on April 4, 1984. (See exhibit D, attachment D-4.) Approval of this element within the context of this NCP does not constitute a commitment by the FAA to establish such a regulation. That action can only be taken after completion of the process for publishing a new regulation, including the opportunity to comment by interested parties.

- C.2 Continue to pursue a policy of accelerating the requirement for installation of fixed ground power and air conditioning units at all aircraft parking locations for fuel conservation and reduced ground noise emissions.

Approved. Such a policy is within the purview of local airport management. No Federal action or authorization is necessary.

- C.3 Maintain voluntary preferential runway utilization system with inboard Runways 25R-7L and 24L-6R and Taxiways K and U being preferred during noise sensitive nighttime (10 p.m. to 7 a.m.) hours.

Approved. This procedure is currently used, traffic and other conditions permitting. No mandatory use of this procedure is contemplated.

- C.4 Evaluation of strategies to limit nighttime (10 p.m. to 7 a.m.) operations is contrary to existing legislation and the Board of Airport Commissioners is not able to consider a policy that would place an absolute restriction on operations.

No Action Required. This is not a recommendation. This is information on why the city did not include an alternative measure as a recommendation in the program, in accordance with Part 150.23(e)(2).

However, FAA does not agree with the city's suggestion that airline deregulation legislation has preempted the authority of airport proprietors to consider strategies for controlling the noise impacts of night aircraft operations.

- C.5 The Los Angeles Board of Commissioners cannot at this time make a finding that the Imperial terminal will not be needed in the future.

No Action Required. This is not a program recommendation made by the city. This is the city's determination to temporarily reject a steering committee recommendation.

The Los Angeles Board of Commissioners will adopt a policy for the Imperial Terminal that would allow continued use without the operation of aircraft engines at the terminal area.

Approved. This is a change in operating policy in the vicinity of the Imperial Terminal which was adopted by the Board of Airport Commissioners on June 13, 1984 to provide some of the relief sought. This policy requires that all turbojet aircraft and turboprop aircraft over 65,000 lbs be towed between taxiway F and the Imperial Terminal when arriving or departing. It also prohibits jet engine runs and runups and limits the use of aircraft auxiliary power units on that terminal ramp. The Board's resolution adopting this policy includes no enforcement measures, but operators have complied voluntarily without significant complaints.

- C.6 Increase pilot awareness of Standard Instrument Departure (SID) requirement of not turning prior to the coastline upon departure from Runway 25 L&R and 24 L&R unless so instructed by air traffic control; increase pilot understanding of the adverse noise impacts resulting from premature turns and drifts over adjacent residential neighborhoods (short term); continuous monitoring and enforcement. (Element A.5, acquisition of ARTS IIIA data, would augment current enforcement capabilities.)

Approved. The SID procedure requires aircraft departing to the west to continue on runway heading and not turn to an easterly heading until a shoreline crossing of 8000' is assured. The major thrust of this measure is pilot education for the purpose of closer adherence to the published departure procedures. Current practice is that ATC notifies the airport noise abatement office of aircraft which are observed to

turn east (prematurely) with respect to the SID procedure. Airport staff then notifies the aircraft operator, or chief pilot in case of air carriers, of the infraction. Enforcement measures are not punitive, rather they rely on "jawboning" techniques to elicit compliance. In the past, the effectiveness of this measure has been criticized because the letter of notification has not been timely. More recently, tower personnel have notified user's officials (e.g. chief pilots) at the same time the airport staff is notified. Although not in letter form, the timeliness of this notice has proven to be very effective. Previous items A2.a and A2.b when implemented will improve the efficiency of the notification system and reduce the workload of ATC.

- C.7 Maintain and enforce existing regulation of nighttime engine maintenance runups. Review current regulation to develop strengthened program of enforcement for adoption.

Existing regulations regarding nighttime engine maintenance runups were assessed and found adequate if properly enforced. Sufficient manpower and monitoring sites now exist to enforce this regulation.

Approved. The city has determined that adequate regulations and hardware exists to enforce the current airport regulation of no runups between 11 p.m. and 7 a.m. The city advised that this measure is within the management authority of the Department of Airports and enforcement will be handled the same as other violations of lease agreements which require adherence to airport operating rules.

- C.8 Adopt a helicopter noise abatement policy establishing FAA approved approach and departure routes, minimum approach and departure altitudes and other measures as are necessary to mitigate potential noise impacts associated with scheduled helicopter operations.

The Los Angeles Board of Airport Commissioners adopted Resolution No. 13942 on October 5, 1983. This policy establishes to the extent of the Board's authority, provisions governing the operation of scheduled helicopters arriving and departing LAX.

No Action Required at this Time. This relates to flight procedures for the purpose of section 104(b) of the Aviation Safety and Noise Abatement Act of 1979 and will receive further FAA review before approval or disapproval. This measure as written, would have the FAA establish operational controls on helicopters in flight that have not received adequate review. Cooperation with local residents, operators, and airport officials has long been practiced by field and Regional Office air traffic personnel. FAA will continue to work with all parties concerned to realize the maximum benefits attainable while balancing the needs of those parties.

- C.9 The Department of Airports [will] continue to pursue the development of a capacity control regulation.

The capacity control regulation is needed to manage the growth of operations as the 40 MAP limitation is approached. This regulation would either control operations directly or indirectly through associated environmental impacts. This type of regulatory approach would benefit the entire noise compatibility area.

Disapproved pending submission to FAA under Part 150 of a specific capacity control regulation proposal in sufficient detail to permit an informed analysis under section 104(b) of the Aviation Safety and Noise Abatement Act of 1979.

D. Capital Improvements Projects

- D.1 Prepare a detailed evaluation of the noise reduction benefits produced by a 2000-foot westerly extension of the Runways 25/7 L&R together with a 2600-foot take-off threshold relocation for a total landing threshold displacement of 4600 feet (short range). Reverse thrust noise impact will be emphasized. Engineering feasibility and environmental assessment studies will also be included during the short range (1984-86) implementation phase.

Approved. This measure would produce a definitive study of the costs and benefits associated with a westerly extension of the south runways combined with landing threshold changes at the east ends. Noise exposure analysis indicates that this measure could have significant beneficial results, but reverse thrust noise impact as well as the cost, in both dollars and airfield efficiency, have not been fully addressed.

OFF-AIRPORT ACTIONS

E. Residential Acoustical Insulation

- E.1a Undertake initial acoustical insulation program using representative housing sample in terms of both construction type and predominant noise exposure within the projected 1987 CNEL contour set, in the short range implementation phase and monitor effectiveness.

Mitigation of sideline and takeoff noise impacts in the communities of El Segundo and Westchester is a key objective of the initial FAR Part 150 Noise Compatibility Program for LAX. Because these communities are comprised of sound, high quality residential neighborhoods, land use conversion is not considered a viable option. Instead, it is recommended that an acoustical insulation program be implemented, with first priority funding directed into those neighborhoods most heavily noise impacted (70 CNEL+). Fully implemented, this program will encompass over 4,200 dwelling units, and achieve a 16 percent reduction in the total number of incompatible residential units within the projected airport noise impact area.

Approved. This is the first phase of an acoustical treatment program for noise-impacted communities. Twenty dwelling units will be treated under this project to formulate better estimates of costs and to develop project management techniques applicable to future projects.

- E.1b Expand voluntary residential acoustical insulation program to Los Angeles City and El Segundo Neighborhoods exposed to CNEL levels of 70 dBA or greater during the remainder of the short range (1984-86) implementation phase.

Approved. This measure is a companion to Item E.1a, above.

- E.1c Expand voluntary residential acoustical insulation program to neighborhoods within the projected target CNEL levels of 65 dBA in the cities of Los Angeles, El Segundo, Inglewood, and unincorporated Los Angeles County areas of Del Aire and Lennox during the remainder of the medium range (1986-90) implementation phase and the long range (1990+) as necessary.

An expanded acoustical insulation program in sound residential neighborhoods located within the 65 to 70 CNEL contour is recommended as the only off airport noise mitigation alternative. This program will involve both voluntary insulation of existing units, and mandatory insulation of proposed new residential units as a condition of development. Since nearly 13,000 dwelling units fall within this noise impact area, the recommended program will necessarily involve a long term, phased implementation effort.

Approved. This is a further expansion of the two areas immediately above.

F. Actions and Projects to Reduce Incompatible Land Use

- F.1 Redevelopment by the city of Inglewood in the Century and La Cienega Redevelopment Districts to airport compatible land uses. Action to commence in the short range and continue until completed. The recommended program is intended to support and accelerate efforts by the city of Inglewood to recycle portions of the La Cienega and Century Redevelopment Districts to airport compatible land uses. Once implemented, nearly 2540 dwelling units will be removed from the projected airport noise impact area.

Approved. This project, although large in scope, falls within the concept of those voluntary measures described in FAA Advisory Circular 150/5020-1, sections 3 and 4. The city of Inglewood has advised that it intends to initiate redevelopment in certain noncompatible high noise areas that have good potential for the introduction of compatible uses. The first steps in this project have been accomplished, and the city is now ready to implement the first acquisition and clearance measures. It should be emphasized that any relocation resulting from use of Federal funds will require the city to satisfy the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646). This measure, if fully implemented, could remove approximately 2,540 dwelling units from noncompatible use. The city has determined that it has the authority to initiate these actions, although some steps

would involve state and/or Federal concurrence, particularly when outside funds are used. Approval of this concept within this NCP should not be construed as a commitment to future Federal funding under the AIP or successor legislation. (See FAA comment under item G.1f, below.) Local, state, and other Federal agencies may assist with such projects according to their authority and funding capability provided that the sponsoring jurisdiction develops satisfactory plans proposals, and funding necessary for the local matching share.

- F.2 Rezoning actions by the city of Inglewood in specific areas to foster development of airport compatible uses and to preclude the development of noise sensitive land uses within the established noise impact area. This action would occur in the short range.

Approved. The city of Inglewood has advised that it proposes to rezone existing neighborhoods to encourage current or subsequent land owners to convert properties to compatible uses. If fully implemented, 440 dwelling units could be removed from noise exposure in excess of 65 CNEL. The city has advised that it has the necessary authority to implement this action.

- F.3a Development and adoption of a Revitalization Strategy and Implementation Program by Los Angeles County for the unincorporated Los Angeles County Lennox area to encourage development of airport compatible land uses (short range).

Approved. This measure is similar to that described under item F.1, above, except that the target area is under jurisdiction of Los Angeles County. FAA comments under items F.1 and G.1f are also applicable to this item. This project has the potential to benefit residents in approximately 3,900 dwelling units exposed to more than 65 CNEL (Ldn).

- F.3b Amendment of the Countywide General Plan to reflect the Lennox Revitalization Strategy and initiate implementation programs (medium range and long range).

Approved. Los Angeles County intends to revise the county plan in accordance with the results of Item F.3, above, and to implement certain actions within the plan. This measure can be initiated under existing county authority although state and/or Federal concurrence may be required for certain steps.

- F.3c Initiation of rezoning actions by the County of Los Angeles as necessary, to support the Lennox Revitalization Strategy and Implementation Program.

Approved. The city has identified that the proposed zoning changes are within the authority of Los Angeles County. They require no Federal action or concurrence.

- F.4a Preparation and adoption by the city of Los Angeles of amendments to the Westchester/Playa del Rey District Plan to foster development of airport compatible uses in areas adjacent to the north runway threshold. (Short range 1984-86)

Approved. The city has advised that the proposed plan revisions are within the authority of the city of Los Angeles. They require no Federal action or concurrence.

- F.4b Rezoning actions by the city of Los Angeles to support the District Plan amendments in fostering airport compatible uses in areas adjacent to the north runway thresholds during the medium range (1986-90) implementation phase.

Approved. The proposed zoning changes are to be consistent with the plan changes adopted as a result of item F.4a, above. The city has advised that it has the necessary authority to initiate such changes, and no Federal action or concurrence is required.

- F.5 Develop and adopt local plans and ordinances as necessary to regulate the establishment and operation of new helicopter landing facilities within the cities of Los Angeles, El Segundo, Inglewood, and Los Angeles County, in the short range with ongoing monitoring and implementation.

Disapproved for purposes of the Los Angeles International Airport Part 150 Program. This proposal involves the establishment and operation of new helicopter landing facilities in communities north and south of LAX. It does not involve LAX itself nor is there evidence that it would reduce noncompatible uses within the area of LAX's noise impact. Further, FAR Part 150 is not applicable to airports used exclusively by helicopters (reference 150.3). Therefore, this recommendation is inappropriate for FAA's Part 150 review. However, outside the Part 150 context, the FAA is willing to cooperate with and advise communities with respect to mitigating noise impacts in heliport siting and operation.

- F.6 Adoption of a comprehensive Airport Land Use Compatibility Plan for LAX and environs reflecting the provisions of the FAR Part 150 action program by Los Angeles County Regional Planning Commission acting as the Airport Land Use Commission as mandated by Assembly Bill No. 2920 and codified as Chapter 1041 (short range 1984-86).

Approved. Los Angeles County is designated by state law as the agency responsible for developing airport land use compatibility plans for the areas surrounding each airport in the county. This item emphasizes that responsibility and establishes the NCP as the basis for much of the plan. No Federal action or concurrence, beyond the approval or disapproval of this NCP, is required to implement this action.

- F.7 Evaluate and construct sound attenuation barriers in appropriate locations adjacent to residential areas within the city of El Segundo. The evaluation would occur in the short range with construction to occur during the remainder of that phase and into the medium range.

Approved. This measure would evaluate the feasibility and the expected benefits of a noise barrier to protect certain portions of El Segundo south of LAX. The barrier would be constructed if the evaluation resulted in a positive recommendation.

G. Noise Compatibility Program Implementation and Funding

- G.1a The Airport Commission will provide the local share of the grant application for initial implementation funds for specific noise compatibility program elements as indicated, if the local jurisdictions will agree to reimburse the Department of Airports, at the time more permanent local share provisions are arranged.

No Action Required. This is not a recommendation. This is factual information on local funding arrangements in accordance with Part 150.23(e) (8).

- G.1b Evaluate legality and feasibility of amending Federal law to allow the airport proprietor to implement a passenger facility charge which as a condition must have FAA and Congressional approval during the short range (1984-86) implementation phase to provide for the local share of noise compatibility program implementation funding.

Approved. Current legislation precludes the establishment by local airport authorities of certain charges on air passengers. This NCP item expresses the intent of the Board of Airport Commissioners to study and evaluate ways in which such charges can be levied. The proposal recognizes that new Federal legislation would be required to establish such authority at a local level. This approval does not endorse this legislative proposal. Approval simply acknowledges that additional funding sources to carry out a noise program would contribute to the reduction of noncompatible uses.

G.1c Implement passenger facility charge during the short range (1984-86).

Disapproved. The suggested facility charge is that to be studied under item G.1b, above. Inasmuch as no proposal is currently under study, and Federal law prohibits certain charges of this type, this recommendation cannot be approved at this time. This does not foreclose the possibility of future approval under the proper circumstances.

G.1d Evaluate legality and feasibility of additional NCP implementation funding sources including the following to provide the local share of noise compatibility program funding:

- Amendment of AIP Program through Federal legislation to provide 100 percent financing for approved noise compatibility program elements.
- Conversion of a portion of the 8 percent ticket tax to a levy permitting its applicability as a debt service fund enabling the issuance of special bonds for the specific purpose of implementing an approved element of the noise compatibility program.
- Application of "In-Kind Services" by local authorities.
- Provision of the local share should be by the local agency having jurisdiction.

Approved. As in item G.1b, above, this measure recommends local study to develop alternatives for reducing the financial burden on local communities for NCP projects. Approval of this study item does not constitute approval of any specific funding concept. Approval simply acknowledges that additional funding sources to carry out a noise program would contribute to the reduction of noncompatible uses.

G.1e The Department of Airports negotiate a contract with its Financial Consultant to provide an additional review of the possibilities existing for other alternative financing methods that might be used to accomplish the off-airport redevelopment and insulation actions included in the noise compatibility program.

Approved. This measure recommends further study of local initiatives which could be used to generate revenue for the local matching funds in AIP grants. Approval simply acknowledges that additional funding sources to carry out a noise program would contribute to the reduction of noncompatible uses.

G.1f The Airport Commissioners affirm that in making the FAR Part 150 grant application for initial implementation funds for specific noise compatibility program elements as indicated, they do not intend to make further commitments to the program until the first phases under the initial grant have been completed and feasibility agreed upon.

Further, appropriate funding mechanisms must be in place or properly authorized, in order that all concerned may understand how any future elements of the program may be adequately financed.

No Action Required. This is not a recommendation. This is factual information on local funding arrangements in accordance with Part 150.23(e) (8).

It must be further understood that the Federal Aviation Administration agrees to and supports all elements of the Noise Compatibility Program as being an appropriate element of a Part 150 Program and eligible for the full support of that agency.

Disapproved. This item would establish an unacceptable condition in requiring FAA to agree to the eligibility of and support for all elements of the NCP. FAA approval of program elements within the context of this NCP can only be interpreted as a determination that the approved items if implemented would reduce existing noncompatible uses and prevent additional noncompatible uses, will not impose undue burden on interstate or foreign commerce, and are not unjustly or unreasonably discriminatory. FAR 150.5(b) states that approval of an NCP "neither represents a commitment by the FAA to support or financially assist in the implementation of the program, nor does it determine that all measures covered by the program are eligible for grant-in-aid funding from the FAA."

### B. Noise Compatibility Program

Determinations of acceptability in this section are primarily based on reference to the Phase III, Volume I Report. Additional detail may be found in Volumes II and III of Phase III, as well as in the earlier reports in Phases I and II. As used herein, the term "accepted" means accepted for FAA review under Part 150. Approval and disapproval of specific program items are discussed in the record of approval.

#### Note

1. Noise Exposure Map. Accepted. The Los Angeles International Airport (LAX) noise exposure map has been developed and submitted for FAA review. The map was accepted on October 16, 1984.
2. Conformance with FAR Part 150, Appendix B. Accepted. The city has demonstrated that the issues and alternatives addressed in section B150.5 and B150.7 were considered during program formulation and feasible measures were incorporated as NCP elements. Refer to Noise Control and Land Use Compatibility Study, Phase III, Volume II.
3. Description of Consultation. Accepted. During Phase III of the study (NCP development), all Steering Committee meetings were announced publicly and time was provided for comments or questions by the public. Refer to page 7 of the Phase III, Volume I Report.
4. Adequate Opportunity for Interested Persons to Submit Views, Data, and Comments. Accepted. The city has demonstrated that broad public involvement was encouraged through publicized workshop sessions, which briefed all interested parties on the purpose, workscope, and progress made in plan/program formulation. In addition to these public forums, meetings of the Steering Committee and the Board of Airport Commissioners were open to receive public input on the plan and program. The composition of the technical committees, with representatives of local units of government, provided ample opportunity for those jurisdictions to shape program recommendations throughout the study. This is more fully discussed in the Phase III, Volume I Report, and in the Phase II Report.
5. Consultation with local Agencies and Citizens. Accepted. As indicated in items 3 and 4, above, the city has advised that local agencies and citizen groups were given ample opportunity to participate in the formulation of issues and the recommended mitigation actions.
6. Consultation with Air Carriers, FBO's, and Others. Accepted. Air Carriers were represented by the Air Transport Association (ATA) and pilots by the Airline Pilots Association. Other airport users were periodically apprised of the study's progress through newsletters and meetings with airport management. See Phase III, Volume I, page 7.

7. Consultation with FAA and Other Federal Agencies. Accepted. Lines of communication were established by the city with the FAA, both in the Regional Airports Division and the LAX Tower. The Civil Aeronautics Board participated in Steering Committee meetings until the local office was closed. The recommended program does not affect other Federal agencies insofar as their responsibilities are concerned.
8. Summary of Consultation Comments and Operator's Responses. Accepted. Comments received during the study helped shape the study and, therefore, do not remain as comments requiring explicit responses by the city. The summary of comments and responses are presented in the Phase III, Volume I Report. An additional comment was received from ALPA after publication of the reports. The primary objection raised was the way in which a certain noise mitigation procedure is implemented at LAX, and the concern that this procedure would be expanded without due regard for safety. The joint technical committee discussed this with the ALPA representative and it was agreed that FAA approval and implementation would not occur at this time. See exhibit D, attachment D-1; Phase III, Volume II; and item B.1 of the Record of Approval.
9. Discussion of Options Recommended and Rejected by the City (section 150.23(d)(2)). Accepted. These alternatives are discussed in the context of operational scenarios and issues developed through workshops with the community. (Refer to Phase III, Volumes I and II, and Phase II Reports.) Certain alternatives listed in section B150.7(b)(2), were not seriously considered by the city because they are inappropriate or unreasonable with respect to LAX (e.g., curfews, capacity limits based on noisiness of aircraft types, and noise based landing fees).
10. Recommended NCP. Accepted. The submittal by the city includes a compilation of action items which make up its recommended noise compatibility program. The program actions are more fully described in the Phase III report. These actions fall under the categories of on-airport and off-airport actions, and are further subdivided under the headings of airport noise monitoring, management, and coordination; flight procedures changes; noise limits, use restrictions, and technological advances; capital improvements; residential acoustical insulation; reduction of incompatible land use; and NCP implementation and funding.
11. Relative and Overall Effectiveness of NCP Options. Accepted. The effects of the operational scenario studies are described in the Phase III, Volume II Report, Section II, and are summarized in Table IV-2 (page 2-16). Subsequent to the publication of this report, additional scenarios were suggested for study. These are discussed in the Phase III, Volume I Report, and a summary comparison is presented in figure 2, page 12, of that report.
12. Anticipated Noise Reduction Based on Implementation of Recommendations. Accepted. The anticipated noise reduction benefits are outlined and summarized in Volume I of the Phase III Report (page 12). The net result of the proposed actions, should they all be implemented, is reduction of the area within the 65 Ldn (CNEL) contour by 0.53 square miles (339 acres). (This does not include

the potential effect of extending the southern runway pair and displacing landing thresholds on Runways 25R and 25L.) Land use and acoustical insulation actions, combined with the reduced 65 Ldn contour are expected to reduce the number of noncompatible dwellings in noncompatible areas by 3,495 units. See exhibit A, page 5, and exhibit D, pages 43-45.

13. Critical Government Actions and NCP Funding. Accepted. Actions required by local, state, and Federal agencies are noted, where appropriate, in conjunction with each recommended action. In most cases, the local jurisdictions have the statutory authority to implement noise compatibility actions of interest to them. The NCP also recommends actions to be taken by the State of California and the Federal Government. These initiatives, if adopted, would contribute to improved compatibility around LAX, but the NCP is not dependent on them. Initial program funding from the Aviation Trust Fund through the Airport Improvement Program is anticipated by the city. Long term funding mechanisms are the subject of one of the NCP items to be studied by the Airport/Community Forum. See the Record of Approval, below.
14. Persons/Entities Responsible for NCP Implementation. Accepted. Responsibilities for implementing actions in the NCP are clearly assigned by the NCP and supporting documentation. Airport operational actions generally require the cooperation of two or more entities (e.g., airport and air carriers, pilots and FAA). Responsibility for zoning, land use, and participation in or management of acoustical insulation programs has been described by the city for jurisdictions surrounding the airport. See exhibit D, pages 28-35.
15. Options Available to Airport Operator. Accepted. The NCP specifies those actions which can or will be implemented by the Department of Airports.
16. Options Available to Local Jurisdictions/Agencies. Accepted. The NCP specifies those actions which the city advises can or will be implemented by units of local government.
17. Options Requiring FAA Review and Concurrence. Accepted. The NCP specifies those actions which would involve FAA concurrence or cooperation. These actions, whether operational, technical or administrative, are discretionary with FAA.
18. Effect of Recommended Actions on the Airport Layout Plan, Airport Master Plan, and System Plan. Accepted. The NCP is consistent with the ALP. In addition, the city has advised that it is consistent with the regional planning work of the Southern California Association of Governments and the State of California, and with other plans covering the study area.
19. Time Period Covered by the NCP. Accepted. The recommended NCP includes actions to be implemented immediately and through the years beyond 1990.

20. Implementation Schedule. Accepted. The NCP places each action item into short range (through 1986), medium range (1986-1990), or long range (beyond 1990) time periods. These were established by perceived city priorities and in some cases, the need for certain phasing or prerequisite steps. Items A.2a, A.2b, A.3, D.1, E.1a, E.1b, F.1, F.3a, and F.7, are the subject of a grant application at this time. See pages 13-27 of exhibit D.
  
21. Periodic NCP Update. Accepted. The heart of this requirement is satisfied by the establishment of the Airport/Community Forum, comprised of officials representing adjacent jurisdictions and other interested parties. The city has determined that this Forum will monitor progress of NCP implementation, evaluate effectiveness of implemented measures, and propose revisions to the NCP when appropriate. The Forum was formally established by the ANCLUC Steering Committee on August 17, 1984. See exhibit D, attachment D-2.