# APPENDIX H CONSOLIDATED FAA RESPONSE TO LAWA REQUESTS FOR NON-STANDARD MODELING PRACTICES

The following pages present a copy of the consolidated FAA response to LAWA's requests for guidance regarding non-standard modeling practices in four areas: (1) user-defined aircraft in the INM Version 7.0b, (2) noise-power-distance (NPD) curve adjustments for the GIII aircraft with hushkits, (3) a non-standard descent angle to Runway 16R, and (4) non-standard aircraft type modeling substitutions. Appendix F presents a copy of LAWA's consolidated request to the FAA related to the first three items. Appendix G presents LAWA's request related to the fourth item.

The noise contours presented in this document followed the FAA guidance.

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

Western-Pacific Region
Los Angeles Airports District Office

P.O. Box 92007
Los Angeles, CA 90009

March 14, 2011

Mr. Scott Tatro
Environmental Affairs Officer
Los Angeles World Airports
7301 World Way West
Los Angeles, CA 90045

Dear Mr. Tatro:

This is in response to your August 31, 2010, and October 19, 2010, correspondence requesting FAA's approval of four non-standard noise modeling practices in support of the Noise Exposure Map (NEM) update at Van Nuys Airport (VNY). The four practices submitted for review are (1) user-defined aircraft profiles in the Integrated Noise Model (INM) Version 7.0b; (2) Noise-Power-Distance (NPD) curve adjustments for the GIII aircraft with hush kits; (3) a non-standard decent angle to Runway 16R, and (4) non-standard aircraft substitutions. Your requests were coordinated through the Federal Aviation Administration (FAA) Western-Pacific Region, FAA Office of Airports and FAA Office of Environment and Energy. After review the following comments were provided:

- The user-defined aircraft profiles include noise abatement departure profiles for the Lear 25, Lear 35 and Boeing 727 aircraft operated by Clay Lacy Aviation, the Gulfstream IV aircraft operated by the Air Group, and the A-3 aircraft operated by Raytheon. These user-defined profiles were previously approved and modeled in INM 6.2, in support of the Part 161 Study and Noisier Aircraft Phase-Out for VNY. The same profiles are now modeled in INM 7.0b and are resubmitted for review. The results from the profiles modeled in INM7.0b are consistent with the results from the profiles modeled in INM6.2. AEE approves the modeling of the noise abatement departure profiles in INM 7.0b in support of the noise exposure map update at VNY.

- An NPD adjustment for the Gulfstream III (GIII) with hush kits was approved by AEE in 2007. That adjustment was based on maximum A-weighted noise levels available at that time. Since then, the FAA AC36-1H was updated and the GIII EPNL noise certification levels became available. In this request, the EPNL noise certification levels are used to update the previous NPD adjustment. The NPD adjustment method is unique to this case because the GIII happens to have NPD curves that are identical for departure and approach. The assumptions made in the adjustment appear to be reasonable and the approach likely results in a conservative estimate of noise. AEE approves the updated NPD adjustment for the GIII hush kits.

- The request also seeks approval to change the glide slope angle for Runway 16R from the 3-degree (INM standard) to 3.9-degrees as specified for both visual and ILS approaches. The corresponding noise modeling followed standard practice in INM and the results appear reasonable. AEE approves the use of 3.9 degree glide slope in noise modeling for VNY NEM updates.

- Below are AEE's responses to the proposed INM aircraft substitution requests:

| # | Aircraft Code | Represented Aircraft Models | Proposed INM Substitution | AEE Recommendation |
|---|---|---|---|---|
| 1 | C56X | Cessna 560XL Citation Excel | CNA55B | Concur |
| **2** | **GALX** | **1126 GALAXY-GULFSTREAM 200** | **CL601** | **CL-600 WITH ALF-502 ENGINES** |
| 3 | GLEX | Bombardier Global Express BD-700 | GV | Concur |
| 4 | H25C | Raytheon Hawker Bae HS 125-1000 | LEAR35 | Concur |
| 5 | L39 | Aero L-39 Albatros | T-38A | Concur |
| 6 | PRM1 | Premier 1-390 | CNA500 | Concur |
| 7 | AC68 | AC6L Aero Commander 680 | BEC58P | Concur |
| 8 | B25 | North American B-25 Mitchell | DC3 | Concur |
| 9 | B26 | Boeing (Douglas) B-26 Marauder/Invader | DC3 | Concur |
| 10 | C46 | Curtiss C-46 Commando | DC3 | Concur |
| **11** | **C82** | **FAIRCHILD C-82 JET PACKET** | **DC3** | **C119L** |
| 12 | U16 | Grumman HU-16 Albatross | DC3 | Concur |
| 13 | C411 | Cessna 411 | BEC58P | Concur |
| 14 | CE25 | Hydroplane Che-25 | BEC58P | Concur |
| 15 | P68 | Partenavia P.68 | BEC58P | Concur |
| 16 | TCOU | Helio H-580 Twin Courier | BEC58P | Concur |
| 17 | B350 | Beechcraft King Air 350 | DHC6 | Concur |
| 18 | C10T | Cessna P210 (turbine) | CNA208 | Concur |
| 19 | C2 | Grumman Greyhound | HS748A | Concur |
| 20 | CVLT | Convair 580 | CVR580 | Concur |
| 21 | P46T | Piper Malibu Meridian | SD330 | Concur |
| 22 | P68T | Partenavia P.68 (turbine) | CNA441 | Concur |
| 23 | P180 | Piaggio P-180 Avanti | DHC6 | Concur |
| **24** | **PC12** | **PILATUS PC-12 EAGLE** | **1900D** | **CNA208** |
| **25** | **TBM7** | **SOCATA TBM-700** | **1900D** | **CNA208** |
| 26 | BK117C | Eurocopter BK117C.1C | B222 | Concur |
| 27 | B412 | Bell 412/412EP | BO105 | Concur |
| 28 | EC20 | Eurocopter EC120 Colibri | SA341G | Concur |
| 29 | EXPL | MD 900 Explorer | EC130 | Concur |
| 30 | B47G/H | Bell 47-G/H | R44 | Concur |
| 31 | B430 | Bell 430 | S76 | Concur |
| 32 | S58T | Sikorsky S-58 | S76 | Concur |

- **2**) AEE recommends the use of INM type CL600 ALF-502 engines to represent the IAI 1126 Galaxy/Gulfstream G200 aircraft within the noise modeling. The CL601 with CF34 engines would likely underestimate the noise because the flyover noise certification level (79.9dB) cited from the FAA's AC 36-1H is for full power takeoff, not for power cutback.

Instead, CL-600 with ALF-502 engines should provide a better match. CL-600's maximum takeoff weight matches that of G200 well. In addition, CL-600's flyover and approach noise levels match that of the G200 well. AEE further conducted INM noise contour comparison between CL600 and CL601 and confirmed that CL600 would generate larger noise contours in general.

- **11**) AEE recommends the use of INM military type C119L to represent the Fairchild C-82 Jet Packet within the noise modeling. The C119L is a slightly larger military variant of the C-82 that AEE believes will more accurately represent the C-82 instead of the DC3.

- **24**) AEE recommends the use of INM type CNA208 to represent the Pilatus PC-12 Eagle within the noise modeling. The CNA208 is also a single engine turboprop aircraft similar in size to the PC-12. The use of a single engine, fuselage mounted, turboprop aircraft that is similar in weight to the PC-12 will provide a more realistic representation of the PC-12 instead of a twin engine turboprop with wing mounted engines.

- **25**) AEE recommends the use of INM type CNA208 to represent the Socata TBM-700 within the noise modeling. The CNA208 is also a single engine turboprop aircraft similar in size to the Socata TBM-700. The use of a single engine, fuselage mounted, turboprop aircraft that is similar in weight to the Socata TBM-700 will provide a more realistic representation of the Socata TBM-700 instead of a twin engine turboprop with wing mounted engines.

- Please understand that the approvals listed above are limited to this particular Part 150 Noise Exposure Map update for Van Nuys Airport (VNY). Any additional projects or non standard INM input at VNY or any other site will require separate approval

If you have questions concerning this matter, please feel free to contact me at victor.globa@faa.gov or 310/725-3637.

Sincerely,

Victor Globa
Environmental Protection Specialist

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