City of Palo Alto
Office of the Mayor and City Council

December 17, 2018

Ms. Camille Garibaldi
Environmental Protection Specialist, SFO – 613
Federal Aviation Administration
San Francisco Airports District Office
1000 Marina Boulevard, Suite 220
Brisbane, California 94005 – 1835

RE: San Francisco International Airport, Noise Compatibility Program - 14 CFR Part 150 Update July 2018

Dear Ms. Garibaldi,

This commentary is provided by the City of Palo Alto, located south-southeast of the San Francisco International Airport (SFO), under the flight paths for most of SFO's arrivals. The City appreciates this opportunity to provide input regarding the Part 150 Study Update. This letter addresses the SFO Noise Compatibility Program (NCP) that is currently before the FAA for review. Additionally, this letter comments on the Noise Exposure Maps produced by the City and County of San Francisco (San Francisco) and accepted by the FAA in January 2016. The Noise Exposure Maps are a critical component as the maps dictate the areas to be considered in the creation of the Noise Compatibility Program.

Overall, our overriding concern is the exclusion of Palo Alto from the geographic scope of the Noise Exposure Maps and thus the exclusion of Palo Alto from consideration in the Noise Compatibility Program Update. Palo Alto has become the recipients of SFO's additional noise, overflight, and other environmental impacts without consideration in the Part 150 Study (Consultation and Public Involvement, §1.6, Table 1-1, Page 1-7).

We also find that both the Noise Compatibility Program and the Noise Exposure Maps fail to take into consideration the Northern California Optimization of the Airspace and Procedures in the Metroplex (NorCal OAPM). The NorCal OAPM and the national Next Generation Air Transportation System initiative (NextGen) have resulted in more air traffic passing over Palo Alto en route to SFO. San Francisco's Part 150 Update purports to reflect changes since 2014 in Noise Exposure Maps and related data, yet the Update does not even address the NorCal OAPM. The Update is also incomplete because it fails to include Palo Alto and its neighbors as part of the Study.

In addition to these overarching comments, we provide specific comments focused on the Noise Compatibility Program Update as well as the Noise Exposure Maps.

Comments Regarding the "Purpose" Section of the of the 14 CFR Part 150 Update Noise Compatibility Program

The City of Palo Alto finds the following deficiencies in the Study:

- *The Study does not address or meet the goals of NextGen as mandated by Congress.*

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Congress mandated that NextGen, "take into consideration, to the greatest extent practicable, design of airport approach and departure flight tracks to reduce the exposure of noise and emissions pollution on affected residents" (per the "VISON 100-Century of Aviation Reauthorization Act of 2003"). Congress also issued a number of NextGen-related mandates in the FAA Reauthorization Act of 2018, Pub. L. 115-254, including sections 175, 176, 178, and 179. We believe that it would be appropriate for the NCP to address the applicability of these and other statutory mandates and, in particular, to explain how NextGen implementation imperatives could affect San Francisco's ability to implement proposed NCP measures. In addition, sections 187 and 188 of that statute mandate studies relevant to noise mitigation and analysis under Part 150. The NCP should incorporate the mandates from those statutory provisions as well.

This "Purpose" section fails to discuss any effort to reduce noise, emissions, or other environmental impacts produced by the Metroplex and Air Traffic. This demonstrates that the Part 150 Study does not meet the goals established by Congress.

- *The Study fails to account for the drastic changes of the NorCal Metroplex OAPM that were deployed starting in 2015*. These changes included a redesign of the Class B airspace and the introduction of OPD arrival procedures. In fact, the environmental ramifications of the Nor Cal Metroplex (OAPM) were entirely omitted from this document.

- *The Study is based on the old INM noise modeling tool instead of the AEDT tool.*

  The FAA has mandated the use of AEDT since March 2012.The 2014 NEM was prepared after 2012 and was based on 2013 data. Since the initial AEDT release, the noise modeling capabilities have drastically improved (especially compared to the previous INM capabilities). It is unclear why San Francisco chose not to use the AEDT tool in preparation of the NEM nor the NCP. The NCP should analyze the differences, if any, that would result if the currently mandated model had appropriately been used.

- *The Study is based on underestimated forecast of SFO operations.* See comparison table below. In 2017, SFO already exceeded the 2019 forecast by 7,643 operations.

  The forecast in the Purpose section covers a period of 2014 through 2019. This is no longer appropriately considered as a forecast period, but instead a validation of historical fact. The only forecast information is for next year and four days of 2018. The Part 150 update projects that SFO air traffic will continue to grow "at an average rate of 2.0 percent annually over the forecast period, increasing from an estimated 421,400 operations in 2013 to 625,620 operations in 2033" (see p. 1-5, table 1.2). It is unfair for the FAA to increase operations, knowing that this increased traffic will fly over Peninsula communities such as Palo Alto and increase noise in those communities, while excluding these communities from the Part 150 Update and associated abatement and mitigation measures.

  If the NCP is to be an effective noise mitigation and compatibility tool, it should examine several years in the future – not just one year. We recognize that the NEM was submitted in 2016 but the agency should require that the sponsor revalidate the 2016 maps and propose NCP measures for the five-year period beginning 2019 (or at the very least, 2018).

Comments Regarding Mitigation Measures Identified in Chapter 3 of the Part 150 Study

- *3.2.4.2 Modify Arrival Profiles/Procedures - The study dismisses changes to arrival procedures because the limited 65 CNEL study area is within the ILS approaches where 3-degree approaches have been standardized.*

  There is a discussion of an experimental continuous descent approach (CDA), now termed optimized profile descent (OPD). This concept has been around for more than twenty years, but is applied to descending aircraft entering the Metroplex and not to aircraft on the ILS approach, as all aircraft are in the study area.

  OPD approaches are recommended for aircraft approaching the outer waypoint on the ILS (beyond the study area of the report). This would provide significant noise relief to South Bay residents and should be a part of an organized and well-run Metroplex.

- *3.2.4.3 Restrict the number or time of day of aircraft operations - This recommendation is important and should be implemented.*

  Currently, too many aircraft arrive within a short period of time in the afternoons and must be radar vectored over Palo Alto and other local communities awaiting a slot for final approach to SFO. This results from poor ATC planning by the FAA and should be incorporated with OPD approaches to minimize noise, save fuel, minimize arrival delays, and reduce air pollution.

- *3.2.6 Management Measures*
  - *3.2.6.1 Implement noise abatement office for monitoring, reporting, and responding to aircraft noise*. We recommend this measure to include areas out to the 45 CNEL contour boundary.

  - *3.2.6.2 Record or Track Noise Complaints*. We recommend this measure to include areas out to the 45 CNEL contour boundary.

Comments Regarding Noise Exposure Maps (NEM) (Part 150, Subpart B)

- *2019 Noise Exposure Map (August 13, 2015) does not display ~~DNL~~ CNEL noise exposure contours below 65 dBA.*

  In developing its noise exposure maps, the Part 150 Update utilizes an outdated metric: CNEL 65 dB and higher (see §1.5, exhs. 1.2, 1.3). This measure ignores low-frequency noise that nonetheless is palpable and fails to reflect the adverse effect on populations newly experiencing more frequent over-flights, at regular intervals, concentrated in narrow corridors. Section 188 of the FAA Reauthorization Act of 2018 directs the FAA to "evaluate alternative metrics to the current average day-night level standard, such as the use of actual noise sampling and other methods, to address community airplane noise concerns." San Francisco should provide leadership on this issue.

- *INM Arrival and Departure Flight Tracks for Runway's 01L / 01R appear to have been cropped, built solely on Instruments Procedures.*

This oversight fails to fully disclose low altitude radar vectoring to final approaches, or early turns on departures, consistently directed by NorCal TRACON (FAA NCT). Full disclosure would have shown their environmental effect near surrounding cities such as Brisbane and South San Francisco, and the full Peninsula. This operational short-cut has been noted in two Congressional Subcommittee hearings (the Nor Cal Class B Study and, most recently, San Francisco Short-Term Noise Monitoring Report, October 31, 2018). These reports show the Oakland departures being turned across the Bay and co-mingled with the SFO departures down the middle of the Peninsula.

- *The INM Arrival and Departures Maps have omitted all aircraft on radar vectors.*

- *The INM Arrival and Departure Maps have omitted all CNEL noise contours below 65 dB.*

- *The INM Arrival and Departure Maps did not stratify, parse, or color code tracks data by altitudes.*

Comments Regarding the San Francisco International Airport 14 Code of Federal Regulations (CFR) Part 150 Study Update Noise Exposure Map Report

- *Airspace (3.6)* Full disclosure, relative to the Class B Airspace change was omitted from this update.

- *Air Traffic Control (3.7) The Part 150 documents fail to include any evaluation or mitigation for the arrival areas as they did for areas surrounding the departures.*

  Nor Cal TRACON has promoted and amplified the use of navigable airspace over the City, and unbalanced usage as a "sort box" for the sequencing of arrival traffic to the RWYS 28 L/R at SFO below 5000 MSL. From the total arrival flow into SFO, following are the percentage of each:
  - BDEGA (25% SFO ARRIVALS)
  - SERFR (30% SFO ARRIVALS)
  - OCEANIC (5% SFO ARRIVALS)

  The BDEGA arrivals are split into two routes, east / west. Of the total volume, over 70% are issued to the west, vectoring them over the Peninsula and the city, descending below 4000 MSL, with consequent noise and environmental impacts.

  The SERFR flow from the south has also caused 55% of approaching aircraft to be vectored for over 35 miles for sequencing to the final approach course. This is due to track compaction, poor traffic management (Oakland ARTCC), and Class B Airspace. This causes excessive vectored flights over Palo Alto.

  OCEANIC arrivals impact the peninsula and City during "nighttime" hours from unnecessarily low approaches over populated areas.

  During southeast weather conditions to San Jose International Airport (SJC) and northwest flow into SFO, an additional noise and environmental impact is incurred (amplified) by low altitude vectoring of arrival aircraft to both airports.

Per the Ad Hoc Advisory Committee on South Flow Arrivals that met in early 2018, about 50% of the SJC south flow arrivals are vectored over Palo Alto.

Both the NEM and the NCP fail to assess the combined impact of aircraft traffic from and to multiple airports. Palo Alto experiences low altitude overflights from and to SFO, from and to OAK, and to SJC when in south flow mode (note also that SJC has a normal flow daily departure flight to Narita that flies over Palo Alto at about 4,000 ft without going through the SJC departure loop system). In addition, there are overflights from and to SQL and PAO.

- *Standard Terminal Arrival (STAR's) and Departure Procedures (DPs) (3.8)* This section fails to address any procedure implemented by the Nor Cal Metroplex in the Bay area during the forecasted period.

- *Instrument procedures 3.8.2* Table 3-5, is an incomplete, non-current, listing of SFO Instrument Approach Procedures (IAP's).

- *Departures 3.8.3* Table 3-6, is an incomplete, non-current, listing of SFO Departure Procedures (DP's).

Conclusion

The City of Palo Alto appreciates this opportunity to comment and looks forward to working with the FAA toward a legally supportable environmental review and successful implementation of an environmentally compliant and properly mitigated PART 150, Noise Compatibility Study for San Francisco International Airport (SFO).

Respectfully submitted,

Liz Kniss, Mayor
City of Palo Alto

cc:

Hon. Dianne Feinstein, U.S. Senate
Hon. Kamala D. Harris, U.S. Senate
Hon. Anna G. Eshoo, U.S. House of Representatives
Palo Alto City Council
James Keene, Palo Alto City Manager
Molly Stump, Palo Alto City Attorney