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VIA ELECTRONIC & OVERNIGHT MAIL

SoCal Metroplex EA
Federal Aviation Administration
Western Service Center – Operations Support Group
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Re: Comments on the SoCal Metroplex Draft Environmental Assessment

To Whom It May Concern:

We submit this letter on behalf of our client the City of Newport Beach (“the City”). The City is home to over 85,000 residents, many of whom are affected by aircraft operations at the John Wayne Airport (“JWA” or “SNA”). Impacts related to SNA are now, and will continue to be, the most significant threat to the quality of life of Newport Beach residents. As such, the City Council’s primary objective is to protect its residents from the impacts of commercial aircraft operations at and from JWA. *See* City Council Policy A-17; *see also* Goal N 3 of the General Plan Noise Element (“Protection of Newport Beach residents from the adverse noise impacts of commercial air carrier operations at JWA as provided in the City Council Airport Policy”). As explained below and in the attached expert comment letters on the air quality and noise analysis, the City finds the Draft Environmental Assessment (“Draft EA”) deficient under the National Environmental Policy Act (“NEPA”), 42 U.S.C. § 4321 et seq. (2012).¹

Most glaringly, the Draft EA fails to identify the potential changes in aircraft flight patterns and intensity at SNA that could result from adoption of the Southern California Metroplex project (“the Proposed Action”) and, consequently, neglects to take a “hard look” at the corresponding and potentially significant adverse noise impacts that could

^{1/} The expert comment letters included as Attachments A and B to this letter are incorporated by reference as if fully set forth herein. If the Federal Aviation Administration (“FAA”) moves forward with preparing a Final EA, rather than an environmental impact statement (“EIS”), the attached comment letters on the Draft EA’s noise analysis (Attachment A) and air quality analysis (Attachment B) must receive individual responses. A true and correct copy of City Council Policy A-17 and Goal N3 is also attached hereto as Attachment C.

result. The Draft EA also omits meaningful analysis of air quality, greenhouse gas emissions and cumulative impacts, among others.

The City is concerned by the FAA's repeated, rapid processing and adoption of EAs and Findings of No Significant Impacts ("FONSI") in other regions and sincerely hopes the FAA has not predetermined the adequacy of the immediate EA based on a need to comply with a previously adopted implementation timeframe. *See Metcalf v. Daley (Metcalf)*, 214 F.3d 1135, 1143 (9th Cir. 2000) (an agency violates NEPA if it commits itself to an outcome before the process is completed); *Davis v. Mineta (Davis)*, 302 F.3d 1104, 1112 (10th Cir. 2002) (an agency must perform an EA for the purpose of determining whether an EIS is necessary "and not the other way around").

The FAA, for example, has issued six FONSI, to date, out of eleven Metroplex projects. EAs are in process for four more regions, with the SoCal Metroplex EA being the only one currently out for public review and comment. *See* Attachment D (Metroplex Schedule included in the NextGen Implementation Plan 2015); *see also* FAA Modernization and Reform Act of 2012 [H.R. 658, Title II, Sec. 225 (a) (urging implementation of the NextGen operational capabilities "on an accelerated basis"). In fact, the FAA's own website shows the new departure procedures proposed for SNA as already under development. *See* Attachment E (FAA, Instrument Flight Procedure Information Gateway Search Results for SNA).

It is somewhat remarkable that in all six previously adopted EAs and FONSI, not one significant impact has been found to result from similar proposed actions in any region nationwide and irrespective of the already degraded nature of noise and air quality in some basins, including the South Coast Air Basin. While we understand the desire of the FAA to proceed quickly, and that the FAA estimates that it could take up to three years to prepare an EIS, based on the Draft EA, it is our opinion that the FAA is rushing through the environmental process to meet an unrealistic schedule to move forward with the Implementation Plan for the SoCal Metroplex Project. Rather than rush through the environmental analysis, the City requests that the FAA take the concerns expressed in this letter seriously and not prepare a Final EA and FONSI in haste. Instead, the City requests that the FAA take the time to clarify the project proposal and analysis and make a good faith effort to resolve the concerns raised by the City and others. *See Metcalf*, 214 F.3d at 1143; *Davis*, 302 F.3d at 1112.

I. BACKGROUND

A. THE CITY'S INTEREST IN THE PROPOSED ACTION

Many residential communities in Newport Beach are located under or near the departure pattern of commercial and general aviation aircraft operating out of SNA. Since the mid-1970s, the City and community groups concerned about adverse airport impacts have developed and implemented compromises to minimize those impacts. Consequently, SNA is now considered one of the most "community friendly" airports in the nation.

Although early efforts to reduce impacts associated with SNA focused on “route authority” court proceedings, in 1985, the City, the Airport Working Group, and Stop Polluting Our Newport entered into a Settlement Agreement with Orange County to resolve federal court litigation initiated by Orange County concerning the 1985 JWA Master Plan. The terms of the JWA Settlement Agreement have been extended and amended over the years, most recently in 2014. The FAA has provided letters confirming that the various amendments comply with the Airport Noise and Capacity Act (“ANCA”), 49 U.S.C. § 47521 et seq. (2012), including the grandfathering provisions pertaining to SNA.

Under the most recent JWA Settlement Agreement, amendment restrictions designed to protect the residents surrounding SNA will remain in effect until at least December 31, 2030, and the existing curfew will remain in effect until at least December 31, 2035.² The amendment allows for a gradual increase in the number of regulated Class A commercial passenger flights and the number of passengers departing and arriving annually. *See* Attachment F³ (Ninth Supplemental Stipulation and Order).

Ensuring compliance with the JWA Settlement Agreement, as amended, is the single most important vehicle for controlling adverse airport impacts in Newport Beach. The Draft EA fails to acknowledge and consider how the Proposed Action would, or would not, result in operations consistent with the terms of the recently amended JWA Settlement Agreement. Would, for example, the Proposed Action result in changes to existing flight patterns such that new residents would be exposed to significant levels of aircraft noise, or a substantial increase in existing noise levels? As explained below, the Draft EA is vague.

As it has in the past, the City will continue to work in good faith with interested stakeholders, including the FAA if such opportunities are provided, to ensure that the potentially significant impacts of new operations and technologies at JWA/SNA are identified and mitigated. *See Wetlands Action Network v. U.S. Army Corps of Engineers (Wetlands Action Network)*, 222 F.3d 1105, 1121 (9th Cir. 2000) (an agency’s decision to forego issuing an EIS may be justified in some circumstances by the adoption of sufficient mitigation measures); *Nat’l Parks and Conservation Ass’n v. Babbitt (National Parks)*, 241 F.3d 722, 734 (9th Cir. 2001) (listing cases holding the same) (abrogated on other grounds by *Monsanto Co. v. Geertson Seed Farms* 561 U.S. 139, 157 (2010)).

^{2/} The curfew prohibits regularly scheduled commercial operations from taking off between 10:00 PM and 7:00 AM (8:00 AM on Sundays) and landing between 11:00 PM and 7:00 AM (8:00 AM on Sundays).

^{3/} To reduce paper consumption, Attachment F, and Attachments F through N are provided only in electronic format to the FAA on the enclosed CD. In addition, the enclosed CD contains other documents relevant to the environmental effects of the Proposed Action for the FAA’s consideration and inclusion in the administrative record.

B. LEGAL FRAMEWORK

The backbone of NEPA includes “a broad national commitment to protecting and promoting environmental quality.” *Robertson v. Methow Valley Citizens Council* (*Robertson*), 490 U.S. 332, 348 (1989); see 42 U.S.C. § 4331 (2012). As such, NEPA requires an agency to prepare an EIS when it proposes “major federal actions significantly affecting the quality of the environment.” 42 U.S.C. § 4332(C) (2012); *Robertson*, 490 U.S. at 348. NEPA is designed to insure that a federal agency has fully contemplated the environmental effects of its action, and “to insure that the public has sufficient information to challenge the agency.” *Id.* at 349.

“As a preliminary step, an agency may prepare an EA to decide whether the environmental impact of a proposed action is significant enough to warrant preparation of an EIS.” *Blue Mountains Biodiversity Project v. Blackwood* (*Blue Mountains*), 161 F.3d 1208, 1212 (9th Cir. 1998), citing 40 C.F.R. § 1508.9. “The purpose of an EA is to provide the agency with sufficient evidence and analysis for determining whether to prepare an EIS or to issue a [FONSI].” *Metcalf*, 214 F.3d, at 1143, citing 40 C.F.R. § 1409.0. “Because the very important decision whether to prepare an EIS is based solely on the EA, the EA is fundamental to the decision-making process.” *Ibid*; see also 40 C.F.R. § 1500.1(b).

An agency must prepare an EIS if substantial questions are raised as to whether a project “may cause significant degradation of some human environmental factor.” *Center for Biological Diversity v. National Highway Traffic Safety Admin.* (*Center for Biological Diversity*), 538 F.3d 1172, 1185 (9th Cir. 2008) (emphasis original, internal quotations omitted). “If an agency decides not to prepare an EIS, it must supply a ‘convincing statement of reasons’ to explain why a project’s impacts are insignificant. ‘The statement of reasons is crucial to determining whether the agency took a “hard look” at the potential environmental impact of a project.’” *Blue Mountains*, 161 F.3d, at 1212, quoting *Save the Yaak Comm. v. Block*, 840 F.2d 714, 717 (9th Cir. 1988); see also *Earth Island Inst. v. United States Forest Service* (*Earth Island Institute*), 697 F.3d 1010, 1019 (9th Cir. 2012) (EAs must take a “hard look” at environmental impacts).

If the FAA continues to insist that the Proposed Action would not result in significant effects, the FAA, at a minimum, must prepare a revised or supplemental EA with evidence supporting the impact conclusions, and adopt any necessary mitigation measures identified as part of that analysis. The perfunctory and cursory nature of the Draft EA leaves the reader unable to understand the bases for the FAA’s less-than-significant conclusions. See *California Trout v. F.E.R.C.*, 572 F.3d 1003, 1007 (9th Cir. 2009) (An EA ‘need not conform to all the requirements of an EIS, [but] it must be sufficient to establish the reasonableness of the decision not to prepare an EIS’). The Draft EA does not provide a reasonable basis for decision-making, and therefore violates NEPA.

II. INADEQUACIES OF THE DRAFT EA

A. DESCRIPTION OF THE PROPOSED ACTION

The FAA's Press Release states that the Project includes 109 new satellite-based procedures within the SoCal Metroplex Project area, including new departure, arrival and approach procedures, and expands the number of entry and exit points into and out of the SoCal airspace – “like creating more on- and off-ramps in the sky.” Press Release, p. 2; *see also* Draft EA, p. 1-11 (“RNAV [Area Navigation] routes can mirror conventional routes or, by using satellite technology, provide paths within the airspace that were not previously possible with ground-based NAVAIDs”).

The Draft EA does not clearly explain or show in diagrams what the FAA specifically proposes for SNA, making it difficult, if not impossible, to understand the ways in which the Proposed Action would affect residents within the City and the environment generally. Instead, the public must attempt to ferret out the SNA analysis from various tables and graphics buried in ATAC's Aircraft Noise Technical Report (May 2015) and documents prepared by the FTA *after* the FTA's released the Draft EA, such as the “updated” TARGETS distribution packages released just two weeks prior to the close of public comment on the Draft EA.

The Draft EA's vague description of the project is inadequate under NEPA because it fails to provide sufficient detail to allow the public a meaningful opportunity to comment on the Proposed Action, and to allow the FAA's own experts to express an informed opinion. It also deprives the FAA decision makers of the opportunity to make an informed decision. *See* 40 C.F.R. § 1501.2(b) (each agency shall “[i]dentify environmental effects and values in adequate detail so they can be compared to economic and technical analyses”); *see also e.g., Sierra Club v. Babbitt*, 69 F.Supp.2d 1202, 1217-18 (E.D. Cal. 1999) (EA violated NEPA for failing to provide an adequate description of the proposed project); *Blue Mountains*, 161 F.3d at 1213-14 (NEPA requires EAs to provide more than vague and conclusory information). The materials released by the FAA since the Draft EA's release do not cure this defect.

Although it is difficult to ascertain what the Proposed Project actually proposes for SNA, based on Table 3-2 of the Draft EA, as well as the information presented in the Draft EA's technical appendices and other documents found on the FAA's website, it appears the major changes proposed by the FAA include modifications to SNA's commercial departure and arrival procedures and include, but are not limited to: (i) replacing the conventional CHANL2 Standard Instrument Departure (“SID”) procedure with the HAYLO SID (an RNAV procedure); (ii) replacing the conventional MUSEL7 SID with the FINZZ SID (an RNAV procedure); and (iii) replacing the STREL4 (previously STREL 3 at the time of preparation of the EA) with the PIGGN SID (an RNAV procedure).

Prior to the subsequent release of the Targets Distribution Package by FAA, a member of the public and reader of the Draft EA would not have realized that under the Proposed Action, *for the first time*, all three major commercial departures – the FINNZ, the HAYLO and the PIGGN - would utilize the STREL waypoint (whereas the existing CHANL2 SID does not utilize the STREL waypoint, and the existing MUSEL7 SID utilizes the MUSEL waypoint). Rather than disclosing and analyzing this important change in departures as part of the Draft EA analysis, the document suggests that departures would remain *essentially unchanged* under the Proposed Action as compared to existing conditions and as compared to the No Action Alternative. This appears not to be the case, however.

While the above-referenced departures will now all utilize the STREL the Draft EA and other materials provided by the FAA do not disclose adequately how the modified commercial departures will navigate *to* the STREL waypoint and how they differ from the current commercial departures. More importantly, the FAA has not analyzed or disclosed how such changes in departures would affect the human environment. After all, under the Proposed Action there is a change to current flight paths as well as a potential narrowing of the current departures which would result in shifting noise from one portion of the community to another, even if there is no increase in flights, but this has not been disclosed or analyzed. A Supplemental Draft EA or an EIS should be prepared to explain how the modified commercial departures will navigate to the STREL waypoint and disclose the full effects thereof including, but not limited to, how such changes in departures would affect the human environment.

In addition, the City requests that the FAA explain its justification for removing the TOING waypoint and include a detailed analysis showing the effect of the removal of a critical waypoint for SNA departure procedures, particularly on noise. The FAA should include this analysis in the Final EA or a revised and re-circulated version of the Draft EA. *See also* Attachment A, § 2.1- §2.3 (incorporated by reference).

B. NOISE

The City is gravely concerned with the lack of explanation and quantifiable information in the Draft EA regarding the increases in noise levels expected to result from implementation of the Proposed Action in the vicinity of SNA. Although the City appreciates the FAA disclosing additional information since release of the Draft EA, the subsequent information does not cure the omissions in the Draft EA. This is especially disconcerting given FAA's statutory duty to protect residents and property owners from the deleterious effects of aircraft noise. *See* 42 U.S.C. § 4901(b) (2012) (“it is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare”); *see also* 49 U.S.C. § 40103(b)(2)(B)(2012); 14 C.F.R. §150.1 (Part 150 Program). This duty has been construed by the U.S. Court of Appeals for the District of Columbia Circuit to apply to restricting aircraft noise over sensitive receptors and protecting the property over which aircraft fly. *See Helicopter Assoc. Int'l, Inc. v. FAA*, 722 F.3d 430, 433-35 (D.C. Cir. 2013).

(i) The Draft EA Omits Any Consideration of Local Noise Standards.

FAA Order 1050.1E, CHG 1 (March 20, 2006) (“the Order”), requires that when local land use jurisdictions have adopted local noise standards that differ from FAA’s significant noise thresholds, FAA will disclose those local standards in its NEPA documentation. *See* Order, § 4.2a, p. A-14. The Order also “recognizes CNEL (community noise equivalent level) as an alternative metric for California.” Order, p. A-60, § 14.1a. (Requirements); *see also* USDOT FAA Order 5050.4B (April 28, 2006) (NEPA Implementing Instructions for Airport Actions), p. 8 (requiring “in California, use the [CNEL] instead of the DNL metric”). The EA excludes this information.

Pursuant to the City’s 2006 General Plan, the City has adopted 65 and 45 CNEL as the outdoor and indoor noise compatibility criteria for residential land uses. The Noise Element of the General Plan includes noise land use compatibility guidelines and noise standards for a variety of land use types. Policy N 1.8 establishes criteria for significant noise impacts to existing sensitive uses (listed below), and the CNEL increase described in this policy is shown in Table 4.6-3 below. *See* JWA Settlement Agreement Draft Environmental Impact Report (“EIR”), p. 4.6-22⁴.

Policy N 1.8: Significant Noise Impacts: Require the employment of noise mitigation measures for existing sensitive uses when a significant noise impact is identified. A significant noise impact occurs when there is an increase in the ambient CNEL produced by new development impacting existing sensitive uses.

NEWPORT BEACH GENERAL PLAN POLICY N1.8
 SIGNIFICANT NOISE IMPACT CRITERIA FOR NEW
 DEVELOPMENT IMPACTING EXISTING SENSITIVE USES

CNEL (dBA)	dBA Increase
55–60	3
60–65	2
65–70	1
70–75	1
Over 75	Any increase is considered significant
CNEL: community noise equivalent level; dBA: A-weighted decibel.	
Source: <i>Noise Analysis Technical Report</i> , Section 2.6.2, Landrum & Brown 2014.	

^{4/} A true and correct copy of the certified Final EIR (which includes the Draft EIR) for the JWA Settlement Agreement is included herein as Attachment N.

If the City's CNEL thresholds were applied to the analysis of the Proposed Action as applicable to SNA and as required by the Order, would significant noise impacts result? An analysis that includes and considers the City's adopted CNEL noise thresholds is missing from, and must be included in, the FAA's environmental analysis. *See also* Attachment A, p. 3 (finding "[t]he degree to which the proposed action would have a greater noise impact when assessed in terms of CNEL can only be determined through a CNEL analysis"). The City requests that the FAA present a CNEL analysis as part of the Final EA and in response to these comments.

(ii) The Draft EA Mischaracterizes the Thresholds of Significance Required by the Order.

The Draft EA states that a significant impact would occur if analysis shows that the Proposed Action will cause noise sensitive areas to experience *an increase in noise of DNL 1.5 dB or more at or above DNL 65 dB noise exposure* when compared to the no action alternative for the same timeframe. *See* Draft EA, p. 5-1. Consideration of "an increase from 63.5 dB to 65 dB" is identified as a "reportable" noise increase rather than a threshold of significance. *See* Draft EA, pp. 5-5 thru 5-6; *see also* Order Section 14.3. Section 14.3 of Order states, however, that an *"increase from 63.5 dB to 65 dB is considered a significant impact"* and that "[s]pecial consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas within . . . national wildlife refuges[.]" Order, p. A-61.

The Draft EA includes only conclusory statements about the FAA's analysis, without any quantification. It also does not consider any changes in potential noise levels and impacts to wildlife or the noise environment of the Upper Newport Bay (also known as Back Bay or the Upper Newport Bay Ecological Reserve).

The Draft EA should also be revised to consider and apply the following thresholds of significance included in the FAA's Draft Order 1050.1F (2013), including as provided in Appendix B. A true and correct copy of the Draft Order is included herein as Attachment G. As provided in the Draft Order, for air traffic airspace and procedure actions such as the Proposed Action, change-of-exposure tables and maps at population centers and noise sensitive areas (e.g. residences, schools, churches, hospitals, parks and recreation areas) are to be provided to identify noise sensitive areas where noise will change by the following specified amounts:

- For DNL 65 dB and higher: ± 1.5 dB
- For DNL 60 dB to <65 dB: ± 3 dB
- For DNL 45 dB to <60 dB: ± 5 dB

"The identification of noise increases that would constitute a significant impact is the same as described above for actions in the immediate vicinity of an airport." *See* Attachment G, p. B-4. To meet the requirements of NEPA, maps and tables that

specifically show the modeled change in exposure of noise levels to residents and other sensitive receptors within the vicinity of SNA must be included in the environmental analysis.

Lastly, the Draft Order contemplates mitigation that goes unmentioned in the Draft EA by nature of the constrained application of FAA's threshold of significance. The Draft Order provides that: "[w]hen a noise analysis in the immediate vicinity of an airport identifies noise sensitive areas that would have an increase of DNL 3 dB or more from DNL 60 dB up to DNL 65 dB noise exposure, the potential for mitigating noise in those areas should be considered, including consideration of the same range of mitigation options available at DNL 65 dB and higher and eligibility for Federal funding." Attachment G, pp. B-7 thru B-8. Here, however, the environmental analysis is deficient as it is impossible to discern if the Proposed Action will result in an increase of DNL 3 dB or more from DNL 60 dB within the vicinity of SNA, and what mitigation measures are proposed. The omission of this analysis makes the Draft EA insufficient for purposes of NEPA.

- (iii) The Draft EA Includes Cursory Information Regarding Baseline Conditions, Applies Standard Aircraft Operating Assumptions Despite the Unique Operating Requirements at SNA, and Uses an Outdated Noise Model.

1. Baseline Information

The Draft EA's analysis also falls short of the FAA's own adopted Order requiring that "[t]he noise analysis will be conducted *to reflect current conditions and forecast conditions* . . . [t]his analysis should include maps and other means to depict land uses within the noise impact area. The addition of flight tracks is helpful in illustrating where the aircraft would normally fly. Illustrations *shall be* large enough and clear enough to be readily understood." See Order, § 14.4e, at A-62 (emphasis added).

Despite this direction, the Draft EA does not include legible or "readily understood" flight tracks showing where the aircraft fly and would fly under the Proposed Action, along with an explanation of the potential changes in noise levels to these areas. See enclosed letter of review of Draft EA prepared by Harris, Miller, Miller & Hanson, Inc. (HMMH) (Attachment A, p. 4 [explaining that by including all arrival and departure tracks for the various modeling conditions, the Noise Technical Report in the Draft EA makes it impossible to consider individual airports within the Proposed Action area and the potential effects from changes to operations at each airports – including how flight track assignment percentages may change]).

As part of the Final EA or a supplement to the Draft EA, the City requests that the FAA provide detail of the assumed existing noise levels surrounding SNA, and noise assumptions regarding the no-action and proposed-action alternatives. This should

include: (1) the assumed utilization of individual procedures; and (2) the percentage utilization of individual flight tracks used in each modeling procedure. *See also* Attachment A, p. 4, § 1.4.

In fact, as explained above, the Draft EA includes factually incorrect information, including, but not limited to, the failure to disclose the concentration of commercial departures in the description of the Proposed Action. The Draft EA and ATAC analysis is also not clear as to whether arrival or departure flight patterns below 3,000 feet AGL would change with adoption and implementation of the Proposed Action. If so, a substantial possibility would exist that the FAA's action could significantly affect the quality of the human environment by resulting in significant noise levels.

These are fundamental flaws in the Draft EA that understate the anticipated noise impacts of the Proposed Action. Without such information there is no evidence supporting the Draft EA's conclusion of no significant noise impacts from changes in flight patterns or, potentially, an increase in intensity from use of more concentrated departure routes under the Project.

2. Use of Standard Aircraft Operations is Inapplicable to SNA

As explained in the expert comment letter from HMMH, the use of standard procedure profile data (e.g., the noise model inputs related to climb rates, speed and power settings that the model uses to calculate noise emissions) below 3,000 feet AGL is not appropriate for modeling departures at SNA. This is because aircraft operators must comply with energy-averaged single event noise exposure level (SNEL) limits for certain classes of aircraft and County regulations, including the General Aviation Noise Ordinance. *See* Attachment A, p. 3. Accordingly, many operators have developed SNA specific noise abatement departure profiles (NADPs) which differ from standard procedures utilized at most airports. *See* Attachment A, p. 6, § 2.4 (quoting FAA's SNA Airport Traffic Control Tower's Standard Operating Procedures, § 7-3-3 [Departure Noise Abatement Procedures]). Consequently the noise modeling should reflect "user-defined" profiles for modeling such procedures in order to identify and consider whether the proposed action would result in any new noise impacts, for example. "The degree to which non-standard departure profiles affect noise exposure in the environs of SNA can only be determined through development and application of such user-defined provides in the modeling process." Attachment A, p. 4. The City requests that the FAA present such an analysis and include it in the Final EA.

Also, the City reiterates its request that the FAA affirm the continued application of the existing Standard Operating Procedures (SOPs) for SNA in a form that reflects the full array of Runway 20 RNAV procedures. Specifically, this section of the SOP should be revised to specify that no Runway 20 departures following any RNAV SID will be vectored until passing abeam STREL, unless operationally required for reasons other than operator or FAA convenience. As discussed in Section 1.4 of HMMH's letter, the

Draft EA does not provide information on the percentage utilization of individual tracks that was assumed in the noise modeling for either the No-Action or Proposed-Action Alternative. FAA representatives agreed to provide a draft of revised language to address this request. The City therefore requests that the FAA provide the promised language in the Final EA and, preferably, before.

3. Use of Outdated NIRS Model

The Draft EA and ATAC noise study uses NIRS as a model despite that model having been replaced by FAA in March 2012 - prior to release of the Draft EA - with AEDT version 2a for analysis of air traffic airspace and procedure actions.⁵ Utilizing a dated model may render the noise analysis deficient and calls into question why the FAA did not use its latest noise modeling software when preparing the EA. Why was the NIRS model used and not the AEDT version 2a used? Would the impacts analysis be different had the currently adopted noise model been used?

(iv) The Draft EA's Noise Modeling of Certain Key Procedures is Skewed.

As discussed in Section 1.4 of HMMH's letter, the "Supplemental Materials, Google Earth files for SoCal Metroplex Draft EA Procedures and NIRS Tracks" provide a basis for viewing and comparing the Proposed-Action and No-Action Procedure Routes and the noise-modeling flight tracks used in NIRS to model each route. The Google Earth files also provide "flight corridor" boundaries for each procedure. Given the large number of no-action and proposed-action routes and tracks, however, it was not practical for HMMH to assess a substantial number. Review and comparison of the Runway 20 jet departure procedures was feasible, however.

Based on Table 3-2 in the Draft EA and other FAA documentation, the City understands that the following relationships apply to the no-action and proposed-action procedures for Runway 20 jet departures:

- The PIGGN RNAV SID is largely intended to replace the existing STREL RNAV SID.
- The FINZZ RNAV SID is largely intended to replace the existing conventional (non-RNAV) MUSEL SID.
- The HAYLO RNAV SID is largely intended to replace the existing conventional CHANNEL SID.

⁵/ https://www.faa.gov/about/office_org/headquarters_offices/apl/research/models/nirs_nst/ (as of July 9, 2015). A printout of this website is included in the enclosed CD.

Comparison of the noise modeling flight tracks for these procedures lead to the following observations and questions:

- The modeled HAYLO dispersion is similar in width to that for the conventional CHANNEL SID that it replaces, at least as far out as STREL. Maintaining the conventional SID's wide dispersion is inconsistent with the substitution of an RNAV SID. An RNAV SID should significantly reduce dispersion relative to the conventional SID that it overlays. We would expect the HAYLO RNAV SID to have narrower dispersion that is similar to that for the existing STREL and proposed PIGGN RNAV procedures. The City requests that the FAA respond to this matter.
- The modeled FINZZ dispersion is similar in width to that for the conventional MUSEL SID that it replaces and significantly more dispersed than those for the PIGGN procedure – at least as far out as STREL. Once again, maintaining the conventional SID's wide dispersion is inconsistent with the substitution of an RNAV SID. Since the FINZZ and PIGGN procedure steps are essentially identical out to the STREL waypoint, we would expect the modeled dispersion for both procedures to be essentially identical; i.e., similar to that observed for the existing STREL RNAV procedure. The City requests that the FAA respond to this matter.
- The noise-modeling flight tracks for the conventional MUSEL SID also appear to include tracks with left-hand turns (perhaps to the THERMAL and OCEANSIDE transitions) that are essentially identical to the existing STREL and proposed PIGGN RNAV SIDs. This agreement is surprising, particularly given that the MUSEL procedure involves an initial turn from runway heading after crossing the Seal Beach VOR 118° radial to a 177° heading, whereas the STREL and PIGGN procedures involve flying runway heading to intercept a 175° heading to STREL. The MUSEL modeling tracks continue to overlay the STREL and PIGGN for some distance past STREL. This agreement – for at least a portion of the modeling tracks – is also surprising when comparing conventional and RNAV SIDs. HMMH understands that the MUSEL procedure is rarely used (although, as noted in Section 2.4, the Draft EA does not provide sufficient information to confirm this understanding). The City requests that the FAA address the rationale for the apparent consistency of the MUSEL modeling tracks with those for STREL and PIGGN.

The City requests that the FAA enhance the “Supplemental Materials, Google Earth files for the SoCal Metroplex Draft EA Noise – Grid Points – Orange County,” posted on the FAA's website after release of the Draft EA, by adding Google Earth layers that depict the 45 to 65 dB DNL exposure levels in the form of noise contours, in five-decibel increments. This enhancement would greatly facilitate the use of the tool and

permit interested parties to obtain a more nuanced understanding of changes in noise exposure.

(v) Revision of Proposed Procedures after Publication of the Draft EA.

Approximately two months after publication of the Draft EA for public review and comment, the FAA posted “updated” TARGETS distribution packages for a number of RNAV procedures, including six RNAV SIDs and two RNAV STARS for SNA online. These updated packages are dated August 25, 2015 and September 1, 2015. The original packages that they replace – and which were the basis of the Draft EA analyses – are dated March 5, 2015.

The FAA did not provide any information on the extent to which the revisions might affect modeling assumptions in the Draft EA, or any commentary on the potential changes in noise exposure that might be associated with the revisions. Most significant for Newport Beach, updated TARGETS packages were provided for the proposed FINZZ, HAYLO, and PIGGN RNAV SIDs. These SIDs apply to Runway 20 jet departures down Newport Bay, which historically have been the primary operations of concern to Newport Beach residents.

Revisions to proposed RNAV procedures made approximately two months after publication of the Draft EA, without any associated discussion of potential effects on noise modeling assumptions or results, call into question the extent to which the noise analyses presented in the Draft EA accurately reflect the proposed project impacts. The FAA should, at the very least, also provide an updated noise analysis as part of a supplement to the EA or, if noise impacts are found to be significant, prepare an EIS.

The City requests that the FAA explain: (1) what changes in the procedures required publication of updated TARGETS packages, and (2) why no noise modeling analyses or results were presented to address the revised procedures in the EA to date.

(vi) The Draft EA’s Conclusion that the Proposed Action would not have a Significant Impact on any Affected Community is Arbitrary and Capricious and Skews the Future Baseline Noise Analysis.

The Draft EA appears to rely on a critical assumption that is not supported by the appendices and ATAC study; specifically, that the assumed number of aircraft flying into SNA and other airports within the SoCal Metroplex would increase at roughly the same pace over the future year scenarios regardless of whether the Proposed Action was implemented. See Draft EA, ATAC Technical Report (May 2015), p. 5-2 (“Because the Proposed Action does not involve changes that are considered capacity enhancements or any actions that would induce growth in operations, operation levels, fleet mix and day/night distribution input was the same as for No Action for both 2015 and 2020”); cf. Tables 2 thru 3 (§ 4(f) Analysis showing negligible increases or no increases in noise

levels between the no action and proposed action scenarios). Considering the repeated statements that the Proposed Action would increase operational efficiencies, and would increase total fuel usage, what evidence supports the EA's assumption that operations levels would remain the same as for the No Action Alternative? This is an open question that is not sufficiently explained in the Draft EA and for which there does not appear to be any substantial evidence in support.

Because the raw number of overhead flights is a critical metric for determining noise levels under the DNL community averaging method and standard, this is a key assumption upon which ATAC's noise calculations rely. Elevated and unsupported assumptions regarding the number of flights that would occur if the Proposed Action were not implemented would improperly inflate the No Action noise baseline level. Consequently, the conclusions regarding the relative noise increases presumed to be caused by the Proposed Action in the future year scenarios appear understated. *See N. Plains Res. Council v. The Surface Transp. Bd.*, 668 F.3d 1067, 1083 (9th Cir. 2012) ("NEPA requires that the agency provide the data on which it bases its environmental analysis . . . [s]uch analysis must occur before the proposed action is approved, not afterward"). To be sufficient for purposes of NEPA, the environmental analysis must disclose the evidence supporting the assumption that there will be no future increases in flights under the Proposed Action as assumed in the ATAC study.

C. AIR QUALITY AND GREENHOUSE GAS EMISSIONS

The Draft EA fails to take a hard look at the potentially significant air quality and greenhouse gas ("GHG") emissions of the Proposed Action. These deficiencies are also discussed in the analysis prepared by Ramboll Environ, attached hereto and incorporated by reference as if fully set forth herein. (Attachment B.) In addition to the comments presented by Ramboll Environ, the City has the following comments on the air quality and GHG analysis presented in the EA.

- (i) The Draft EA Inappropriately Relies on the Clean Air Act's De Minimis Exemption in Concluding the Proposed Action Would Not Cause Significant Air Quality Impacts.

The South Coast Air Basin is in extreme nonattainment with the federal national air quality standards for ozone (O₃) and in non-attainment with the federal particulate matter (both PM₁₀ and PM_{2.5}) standards. *See* Draft EA, p. 4-27 to 4-28 (Table 4-8). Although the Proposed Action would increase harmful air emissions from SNA, the EA fails to take a hard look at the Proposed Project's potential to contribute adversely to the region's already-poor air quality. The general information about increased fuel use presented in the Draft EA tells the reader nothing about the actual type and amount of harmful emissions that the Proposed Action would produce, or even about the magnitude of the impact. The information presented in the Draft EA is insufficient to support its conclusion that the Proposed Action would not have an adverse effect on air quality.

Rather than providing information to support a conclusion of less than significant air quality emissions, the Draft EA finds the Proposed Action would not result in significant impacts because it is purportedly exempt from the Clean Air Act's, 42 U.S.C. § 7401 et seq. (2012), conformity requirement. The stated bases for the conclusion that the Proposed Action is exempt from the conformity requirement is that, according to the Draft EA, operational changes that could result in an increase in fuel burn would occur at or above 3,000 feet AGL. Draft EA, p. 5-16.

Although the U.S. Environmental Protection Agency's regulations exempt air traffic control activities at 3,000 feet AGL or above from the conformity requirements of the Clean Air Act, (*See* 40 C.F.R. 93.153(c)(xxii)), the Draft EA provides no factual support for the conclusion that the *only* operational changes associated with the Proposed Action that would result in increased fuel consumption would occur at or above 3,000 feet AGL. *See* Attachment B, p. 2. In fact, the Draft EA contradicts this conclusion by also stating that the reason the Proposed Action would increase fuel consumption is that it would change air traffic flows during departures, descents, and approaches of flights – all of which occur near ground levels. *See* Draft EA, p. 5-15; *see also* Draft EA, p. 5-10 (stating “[c]hanges to flight paths under the Proposed Action would *primarily* occur at or above 3,000 feet AGL[,]” thus implying some changes to flight paths would occur below 3,000 feet AGL (emphasis added)).

Other evidence generated by the FAA also suggests that this assumption (that the increase in fuel use would only occur at elevations above 3,000 feet AGL) is inaccurate. The FAA's recent publication, “Aviation Emissions, Impacts & Mitigation: A Primer,” (Jan. 2015) (hereafter, “FAA Primer,” attached hereto as Attachment H) explains that “[g]enerally, about 10 percent of air craft pollutant emissions are emitted close to the surface of the earth (less than 3,000 feet above ground level).” FAA Primer, p. 2, fn. omitted.

If any changes in activities under the Proposed Action would occur at or under 3,000 feet AGL and could increase criteria pollutant emissions, these changes must be specifically identified and discussed in the Draft EA.

(ii) The Draft EA Fails to Consider Localized Air Quality Impacts including Health Effects.

Many sensitive receptors (i.e., those segments of the population most susceptible to impacts from air pollution, including children, the elderly, and people with pre-existing serious health problems) are located immediately adjacent to SNA. *See* JWA Settlement Agreement Draft EIR, Appendix D, Air Quality Technical Report, Table 3.3-1 and Figure 4. The nearest sensitive receptors to the SNA site are residents of the City immediately adjacent to the southern portion of SNA. Other sensitive receptors include:

- Schools: the nearest schools are the Orange County Christian School (approximately 1,100 feet (335 meters) from the western boundary of

SNA, and the Newport Montessori private school, approximately 1,215 feet (370 meters) to the east of SNA;

- Daycare Centers: the nearest daycare center is the Tutor Time Child Care/Learning Center, approximately 1,520 feet (463 meters) to the east of SNA;
- Elderly Residential Facilities: the nearest residential facility for the elderly is Irvine Cottages No. 9, located approximately 1,745 feet (532 meters) to the east of SNA;
- Parks and Athletic Facilities: the Newport Beach Golf Course is immediately south of SNA, while the Upper Newport Bay Nature Preserve recreational area is approximately 2,400 feet (723 meters) to the south.⁶

(Also, there does not appear to be any analysis of potential effects on birds and other wildlife within the Upper Newport Bay from the operational changes that could result from adoption and implementation of the Proposed Action.)

The Draft EA discloses that the Proposed Action would increase air emissions as compared to the No Action Alternative. Draft EA, p. 5-15 to 5-17. Because this increase in emissions is due to increased fuel consumption, increased emissions of hazardous air pollutants (“HAPs”) (also called “toxic air pollutants” or “TACs”) may also occur. Among other pollutants, the Proposed Action could possibly result in an increase in black carbon⁷ and ultrafine particle⁸ emissions which should be considered in the final environmental document. Potential impacts to human health associated with releases of HAPs may include increased cancer risks and increased chronic (long-term) and acute (short-term) non-cancer health hazards from inhalation of HAPs by people working, living, recreating, or attending school on or near SNA.

If, as it appears, the Proposed Action would result in a narrowing of flight paths, aircraft emissions will also become concentrated in those areas. What are the potential health risks to sensitive receptors under this scenario?

As the FAA is well aware, methodologies exist to conduct analyses which would enable the FAA to consider the health impacts of the Proposed Action’s HAP and particulate matter emissions. See FAA Primer, p. 11–12 (discussing methodologies); see also Attachment B, at p. 4 (discussing EA’s failure to consider potential impacts on

^{6/} JWA Settlement Agreement Draft EIR, Appendix D, Air Quality Technical Report, p. 26.

^{7/} The U.S. EPA has published important information about black carbon and its adverse effects (attached hereto as Attachment I).

^{8/} As shown in the attached study (Attachment J), LAX is a source of ultrafine particles to nearby communities.

human health). Yet the Draft EA fails to address whether the Proposed Action would result in any health impacts to sensitive receptors.

(iii) The Draft EA Fails to Take a Hard Look at GHG Emissions and Climate Change.

The Draft EA concludes that although fuel burn would increase under the Proposed Action as compared to the No Action Alternative, no significant impacts on GHG emissions related to climate change are anticipated. Draft EA, p. 5-17, 5-22. The Draft EA attempts to support this conclusion by reasoning that the project-related GHG emissions “represents a slight increase of approximately 29 [metric tons (MT)] of [CO₂ equivalent (CO₂e)] or 0.33 percent under the Proposed Action when compared to the No Action Alternative.” *Ibid.* According to the Draft EA, “[t]his would compromise less than 0.00000011 percent of U.S. based greenhouse gas emissions and less than 0.00000014 percent of global greenhouse gas emissions.” *Ibid.*; *see also Id.* at 5-22 (concluding that the Proposed Action would not result in cumulative climate change impacts).

A “de minimis” rationale for concluding impacts would not be significant is not supported by NEPA. As cogently explained by the Council on Environmental Quality (“CEQ”), in its Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts (hereafter, “CEQ Draft GHG Guidance,” attached hereto as Attachment K)⁹: “Government action occurs incrementally, program-by-program and step-by-step, and climate impacts are not attributable to any single action, but are exacerbated by a series of smaller decisions, including decisions made by the government.” CEQ Draft GHG Guidance, p. 9; *see also Mass. v. EPA*, 549 U.S. 497, 523-25 (2007) (“Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop. They instead whittle away at them over time, refining their preferred approach as circumstances change as they develop a more nuanced understanding of how best to proceed”).

For this reason, the CEQ rejects the use of a de minimis standard in assessing GHG related climate change impacts. As stated by the CEQ: “[T]he statement that emissions from a government action or approval represent only a fraction of global emissions is more a statement about the nature of the climate change challenge, *and is not an appropriate method for characterizing the potential impacts* associated with a proposed action and its alternatives and mitigations.” CEQ Draft GHG Guidance, p. 9, (emphasis added). Yet, this is exactly the approach taken by the Draft EA for the Proposed Action.

Rather than utilizing a de minimis approach to evaluating the significance of the Proposed Action’s GHG and climate change impacts, the Draft EA must be revised to consider the context and intensity of the Proposed Action, including adoption of Metroplex nationwide rather than on a piecemeal region by region basis. 40 C.F.R., §§

⁹/ Available at: <https://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/ghg-guidance> (as of June 25, 2015).

1508.27(a), 1508.27(b) (context is the situation in which something happens, and which gives it meaning; intensity is the severity of impact). To help provide context for the Proposed Action's adverse GHG effects, the Draft EA should discuss applicable emission targets for GHG reductions. As indicated by the CEQ, doing so would "provide a frame of reference and make it clear whether the emissions being discussed are consistent with such goals." CEQ Draft GHG Guidelines, p.14.

Among other things, in discussing the regulatory context of the Proposed Action's GHG and climate change effects, the Draft EA should evaluate the Proposed Action's potential to hinder the United States' goal of achieving carbon-natural growth for U.S. commercial aviation by 2020, using 2005 emissions as a baseline.¹⁰ The Proposed Action appears to conflict with this goal because it is not carbon natural and instead increases GHG emissions over the No Action Alternative in 2015 and 2020.

Notably, the United States Aviation Greenhouse Gas Emissions Reduction Plan cites the FAA's NextGen program as a means of helping to achieve the federal government's goal of carbon neutrality, yet the Proposed Action would *hinder* the ability of the federal government to achieve this goal. As such, the Draft EA should conclude that the Proposed Action would have a significant adverse climate change impact, and an EIS should be prepared.

To provide further context concerning the Proposed Action's climate change and GHG impacts, the Draft EA should also consider how the project will help or hinder California in reaching its emission reduction goals under California State Assembly Bill ("AB") 32, The California Global Warming Solutions Act of 2006, Cal. Health & Safety Code, § 38500 et seq. (2015).¹¹ Under AB 32, California must reduce its GHG emissions to 1990 levels by 2020. Furthermore, under California Governor Jerry Brown's recent Executive Order B-30-15, by 2050, California must reduce its GHG emissions to 80 percent below 1990 levels. The Draft EA fails to consider whether the Proposed Project would impede California's ability to meet these important goals, and thereby fails to consider the full context and consequences of implementing the Proposed Action.

The Draft EA's climate change analysis also fails to assess whether the Proposed Action would have a disproportionate impact on the climate, in that aviation emissions occur in the climatically sensitive upper troposphere and lower stratosphere. FAA Primer, p. 10. Such information is necessary in determining the intensity and context of the

^{10/} The United States Aviation Greenhouse Gas Emissions Reduction Plan is available at:

https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/media/Aviation_Greenhouse_Gas_Emissions_Reduction_Plan.pdf (as of June 25, 2015.) See Attachment L.

^{11/} See CEQ Draft GHG Guidelines, p. 14 [explaining that the Bureau of Land Management considers the effect of its proposed actions on California's GHG emission reduction goals].)

Proposed Action's impacts on climate change. The failure to consider such disproportionate impacts demonstrates that the FAA has failed to take a hard look at this crucial environmental issue. Additionally, the climate change impacts of black carbon produced by the Proposed Action should be discussed. See Attachment I.

Moreover, the Draft EA violates NEPA for failing to discuss reasonable mitigation measures to reduce the Proposed Action's air quality and GHG impacts. *Wetlands Action Network*, 222 F.3d, at 1121; *National Parks*, 241 F.3d, at 734. Mitigation includes considering the avoidance of the impacts, minimizing them by limiting them, rectifying the impact, reducing or eliminating the impacts over time, or compensating for them. 40 C.F.R. §§ 1508.20, 1508.25. The Draft EA should consider whether there are operational improvements that could be incorporated into the Proposed Action that would reduce emissions of GHG and other air pollutants. The Draft EA should also consider the purchase of carbon credits to offset the Proposed Action's increase in GHG emissions. Doing so is not only necessary to achieve compliance with NEPA, it would also help the Proposed Action achieve the FAA's goals for reducing GHGs through its NextGen program. See U.S. Aviation Greenhouse Gas Emissions Reduction Plan, p. 6–7 (explaining that the NextGen program is intended to result in lower fuel burn).

D. CUMULATIVE IMPACTS

An EA must fully assess the cumulative impacts of a project. 40 C.F.R. § 1508.7. The CEQ regulations define each term within NEPA's requirement of an EIS for "every ... major Federal action ... significantly affecting the quality of the human environment." The term "significantly" is defined as those actions "with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment." 40 C.F.R. § 1508.7. "Cumulative impact," in turn, is defined as:

the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R. § 1508.7.

It is firmly established that an analysis of cumulative environmental effects of a proposed action is an essential part of the environmental review process. *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 896 (9th Cir. 2002). The courts have emphasized the importance of addressing cumulative effects in EAs in particular. *Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1077 (9th Cir. 2002) (*Kern*) (explaining that under Ninth Circuit precedent, EAs must analyze cumulative impacts);

Blue Mountains, 161 F.3d, at 1208 (discussing importance of cumulative impact analysis in EAs); *see also* 40 C.F.R. 1508.8.

As noted by Ninth Circuit Court of Appeals, “[g]iven that so many more EAs are prepared than EISs, adequate consideration of cumulative effects requires that EAs address them fully.” (*Kern*, 284 F.3d, at 1076, quoting CEQ, *Considering Cumulative Effects Under the National Environmental Policy Act*, at 4.) Despite the importance of an adequate cumulative impacts analysis, the Draft EA for the SoCal Metroplex provides only a perfunctory cumulative impacts analysis that in no way satisfies NEPA’s “hard look” requirement.

As the Ninth Circuit has emphasized, “[a] proper consideration of the cumulative impacts of a project requires some quantified or detailed information; ... [g]eneral statements about the possible effects and some risk do not constitute an hard look absent a justification regarding why more definitive information could not be provided.” *Klamath-Siskiyou Wildlands Center v. U.S. Bureau of Land Management (Klamath-Siskiyou)*, 387 F.3d 989, 993 (9th Cir. 2004) (internal quotations omitted). The analysis “must be more than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future project.” *Id.* at 994. The Draft EA falls far short of these standards.

The Draft EA, for example, devotes less than one page to the cumulative effects of the Proposed Action. *See* Draft EA p. 5-21 to 5-22. The Draft EA does not so much as *mention* cumulative noise impacts, let alone take a hard look at such impacts. *Ibid.* Instead, the Draft EA’s purported cumulative impacts analysis is limited to energy, air quality, and climate change impacts. For cumulative air quality and climate change impacts, rather than taking the requisite hard look, the Draft EA simply reiterates that the Proposed Action would not have significant indirect or direct impacts in these areas when compared to the No Action Alternative. *Id.* at 5-22. The Draft EA also states that the environmental documentation prepared for the projects identified in Table 5-7 found no significant long-term impacts to air quality and did not evaluate climate change impacts. For these reasons, the Draft EA concludes that the Proposed Action would not result in significant cumulative air quality or GHG-related climate change impacts. This cursory and unsupported discussion does not satisfy NEPA’s requirements.

As noted, the Draft EA’s conclusion that the Proposed Action would not have cumulative air quality or climate change impacts is based on the Draft EA’s (flawed) assumption that the Proposed Action itself would not have significant air quality or climate change impacts. *See* Draft EA, p. 5-22. As discussed above, the Draft EA is mistaken in concluding that the Proposed Action would not itself cause significant air quality or climate change impacts. Moreover, the fact that a proposed action would not cause significant direct or indirect effects is not a sufficient basis to conclude that the project would not result in significant cumulative effects.

Klamath-Siskiyou, 387 F.3d, at 994–97, is instructive. That case involved two EAs prepared for proposed timber sales. The Ninth Circuit held that the EAs violated

NEPA by failing to adequately evaluate cumulative impacts. The EAs at issue in that case devoted more than a dozen pages to the discussion of “Cumulative Effects,” but, as the court reasoned, a “considerable portion of each section discusses only the direct effects of the project at issue on its own minor watershed.” *Ibid.* As explained by the court, the problem with such a discussion is that “it only considers the effects of the very project at issue. It does not appear to take into account the combined effects that can be expected” as a result of undertaking other foreseeable projects, in addition to the project itself. *Id.* at 996. “In sum, the only mention of cumulative effects in the two EAs comes in the form of generalized conclusory statements that the effects are not significant or will be effectively mitigated[,]” in violation of NEPA. *Ibid.*; see also *Te-Moak Tribe of W. Shoshone of Nev. v. U.S. Dept. of Interior*, 608 F.3d 592, 604–05 (9th Cir. 2010) (holding that an EA’s cumulative impact analysis was inadequate when the discussion focuses on the action’s lack of unmitigated direct effects in lieu of a discussion of cumulative impacts).

The SoCal Metroplex Draft EA suffers from the exact same flaw: the Draft EA simply assumes that the Proposed Action would not cause significant cumulative effects based on the assumption that the Proposed Action itself would have relatively minor air quality and climate change impacts as compared to the No Action Alternative. The Draft EA makes no attempt to consider the potential of the Proposed Action’s emissions to combine with the emissions of other past, present, and reasonably foreseeable projects to result in cumulatively significant impacts – including other Metroplex projects. See Draft EA, p. 5-22. As the court made clear in *Klamath-Siskiyou*, such an approach violates NEPA. *Klamath-Siskiyou*, 387 F.3d, at 994–97; see also *Te-Moak*, 608 F.3d, at 604–05.

The Draft EA’s discussion of other past, present, and reasonably foreseeable actions also violates NEPA. Again, *Klamath-Siskiyou*, 387 F.3d, at 994–97 is informative. In addition to being legally inadequate for focusing on the lack of significant direct or indirect effect as a bases for concluding cumulative impacts would be less than significant, the Draft EAs at issue in that case also violated NEPA for failing to quantify the effects of other projects. Instead, the reader was only informed whether the particular environmental factor was “unchanged,” “improved,” or “degraded,” and whether that change would be “minor” or “major.” *Id.* at 994. As noted by the court, the reader was “not told what data the conclusion was based on, or why objective data cannot be provided.” Such an analysis did not satisfy NEPA. As explained by the court, “[g]eneral statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.” *Ibid.*, quoting *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1380 (9th Cir. 1998).

Here too, the Draft EA’s purported list of past, present, and reasonably foreseeable future actions only states whether environmental review has been completed for the projects, and if so, whether the environmental documents found significant long-term energy, air quality, or cumulative impacts. See Draft EA, p. 5–19 to 5–21 (Table 5-7). Because the environmental review documents were either still underway, or had

concluded that the impacts would not be significant, the Draft EA assumes, without analysis or evidentiary support, that the effects of the projects would not combine with the Proposed Action to cause significant cumulative impacts.

Absent quantified data about the air quality, GHG/climate change, and noise effects of the past, present, and reasonably foreseeable future actions, however, it is impossible to ascertain whether the combined effects of the Proposed Action and the projects listed in Table 5-7 would be cumulatively significant, in violation of NEPA. *See Klamath-Siskiyou*, 387 F.3d, at 994–97.

Moreover, even if the Draft EA had provided adequate quantified data regarding the noise, air quality, and climate effects of the projects listed in Table 5-7 (which it has not), the Draft EA's discussion of other projects would still violate NEPA in that the list is incomplete. Crucially, the Draft EA omits the 2014 JWA Settlement Agreement Amendment from its list of cumulative actions. The JWA Settlement Agreement extended and amended the terms of the 1985 Agreement between the County of Orange, the City of Newport Beach, the Airport Working Group, and Stop Polluting Newport. Pursuant to the California Environmental Quality Act, Pub. Resources Code, §§ 21000 et seq., the County of Orange, as lead agency, certified an EIR for the JWA Settlement Agreement amendment in late 2014.

The EIR prepared for the 2014 JWA Settlement Agreement amendment concluded that the Agreement would result in significant and unavoidable noise, air quality, and GHG/climate change impacts. With respect to noise impacts, the JWA Settlement Agreement EIR concluded that the Agreement would generate aircraft noise that would increase exterior noise levels of 65 CNEL or above and interior noise levels of 45 CNEL or above for residences and schools. *See* JWA Settlement Agreement Draft EIR, p. 4.6-67 to 4.6-77. Furthermore, the Agreement would result in significant and unavoidable impacts associated with mass daily emissions, ambient air quality standards, cumulative air quality impacts, conflicts with applicable air quality plans, and the generation of greenhouse gases. *See* JWA Settlement Agreement Draft EIR, p. 4.1-27 to 4.1-75, 4.3-23 to 4.3-29, 5-29 to 5-30, 5-32.

The Draft EA fails to consider whether the noise and emissions created by the JWA Settlement Agreement would combine with the Proposed Action to result in cumulatively significant noise, air quality, and/or climate change impacts, in violation of NEPA. 40 C.F.R. § 1508.7; *Earth Island Institute*, 351 F.3d, at 1291 (agency's failure to consider cumulative impacts of project together with reasonably foreseeable adjacent project violated NEPA).

Lastly, the FAA does not appear to have taken the required "hard look" at the potential cumulative effects of the Proposed Action to the surrounding communities, including the Upper Newport Bay. Specifically, the EA does not address the cumulative impacts in light of other air flights over the Bay and City, including in future year scenarios. The EA does not mention the reasonably foreseeable future aircraft activity at SNA, fleet composition and increased flights (as agreed to in the Settlement Agreement),

all of which would contribute to cumulative noise, air quality, and GHG impacts, among others. *See* Draft EA, p. 4-7 (excluding noise from VFR aircraft), p. 5-18 thru 5-21 (listing only other Past, Present, & Reasonably Foreseeable Future Actions related to Runway Related Projects).

E. CYBERSECURITY RISKS

NEPA also requires the preparation of an EIS if the proposed federal action has the potential to significantly affect the quality of the human environment. 42 U.S.C. § 4332 (2012); *Foundation for North American Wild Sheep v. U.S. Dept. of Agriculture*, 681 F.2d 1172, 1178 (9th Cir. 1982). Even if a project's risks of environmental harm are uncertain, if they are potentially significant, an EIS is required. *City of Davis v. Coleman (City of Davis)*, 521 F.2d 661, 676 (9th Cir. 1975). In determining whether a federal action would "significantly" affect the environment, the agency should consider "[t]he degree to which the proposed action affects public health and safety." 40 C.F.R. § 1508.27. A federal agency is therefore responsible for taking a "hard look" at its project's effect on safety. *See Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 772, 775 (1983) (holding that the Nuclear Regulatory Commission properly considered the risk and effect of a possible nuclear accident, though it did not need to consider the effect of such risk on the psychological well-being of residents).

Furthermore, an agency must evaluate the "degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks." 40 C.F.R. § 1508.27. To that end, the agency must "directly address substantial questions" regarding the possible effects on the human environment. *Center for Biological Diversity*, 538 F.3d, at 1223 (internal citations omitted). As has been held by the Ninth Circuit: "If the risk of a terrorist attack is not insignificant, then NEPA obligations [the agency] to take a 'hard look' at the environmental consequences of the risk." *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Commission (Mothers for Peace)*, 449 F.3d 1016, 1032 (9th Cir. 2006).

The Draft EA does not satisfy these standards. In particular, the Draft EA fails to include any analysis of heightened cybersecurity risks, including cyberterrorism risks, posed by the Proposed Action. A recent report prepared by the U.S. Government Accountability Office ("GAO") (GAO-15-370, published April 14, 2015)¹² found that the FAA's NextGen efforts face cybersecurity challenges in at least three areas: (1) protecting air-traffic control information systems, (2) protecting aircraft avionics used to operate and guide aircraft, and (3) clarifying cybersecurity roles and responsibilities among multiple FAA offices. Among other things, the GAO report determined that

^{12/} The full text of the GAO report is available at: <http://www.gao.gov/assets/670/669627.pdf> (as of June 29, 2015). The highlights of the report can be viewed at: <http://www.gao.gov/assets/670/669628.pdf> (as of June 29, 2015). These documents, and other documents relevant to potential safety and security risks associated with the FAA's NextGen project, are attached hereto as Attachment M.

“significant security-control weaknesses remain that threaten the [FAA’s] ability to ensure the safe and uninterrupted operation of the national airspace system.” *Highlights of GAO-15-370*. Furthermore, the increased reliance on the Internet “can potentially provide unauthorized remote access to aircraft avionics systems.” *Ibid.*

According to the report, “[h]istorically, aircraft in flight and their avionics systems used for flight guidance and control functioned as isolated and self-contained units, which protected their avionic systems from remote attack.” *GAO Report*, at 18. The FAA and several experts consulted by the GAO explained that firewalls, which should now protect flight-critical avionics systems from intrusion by passengers using in-flight entertainment, could be hacked just like any other software and circumvented as they essentially share the same physical wiring harness or router and use the same networking platform. *Id.* at 18-9. The report warns that “[a]ccording to cybersecurity experts [the GAO] interviewed, Internet connectivity in the cabin should be considered *a direct link between the air craft and the outside world, which includes potential malicious actors.*” *Id.* at 19 (emphasis added). “[V]iruses or malware planted in websites visited by passengers could provide opportunity for a malicious attacker to access the [Internet-protocol]-connected onboard information systems through their infected machines.” *Ibid.* Even a pilot’s personal smartphone and tablet could pose a risk of a system being compromised because these devices have the capability to transmit information to aircraft avionics systems. *Ibid.*

Another principle cybersecurity problem is protecting air traffic control information systems under the Proposed Action. As the congressional requesters of the GOA report noted, increased reliance on integrated information systems and distribution of information, as proposed by NextGen, may put the air traffic control system at greater risk for intentional or unintentional information-system failures and breaches. *GAO Report*, at 2.

The Draft EA never addresses these increased risks associated with the Proposed Action and their associated effects on the human environment, including public health and safety. As demonstrated by the GAO report and the other documents provided in Attachment M, the Proposed Action has the potential for very significant effects on public health and safety and environmental quality due to the increased risks associated with information-system breaches and failures. Therefore, NEPA requires the FAA to prepare an EIS prior to adopting the Proposed Action. 40 C.F.R. § 1508.27(b)(2); *Mothers for Peace*, 449 F.3d, at 1032; *see also Scientists’ Inst. for Pub. Info., Inc. v. Atomic Energy Comm’n*, 481 F.2d 1079, 1092 (D.C. Cir. 1973); *City of Davis*, 521 F.2d, at 676.

III. CONCLUSION & REQUEST FOR MONITORING

As explained above, NEPA requires the FAA to prepare an EIS prior to adopting the Proposed Action. At the very least, the FAA must prepared a revised or supplemental EA that complies with NEPA’s requirements to identify, specifically, the foreseeable consequences of the Proposed Action and any significant noise, air quality, GHGs,

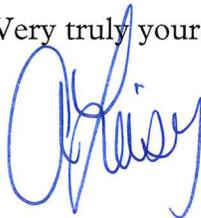
cumulative, or cybersecurity impacts that would result and therefore require mitigation. The Draft EA, as proposed, falls short of NEPA's requirements.

If the FAA eventually adopts the Proposed Action after conducting the additional environmental review required by NEPA, the City requests that the FAA commit to at least a six-month post-implementation monitoring and evaluation period in collaboration with the City and County, and with the goal of ensuring that if unintended consequences result, appropriate action will be taken. (See Attachment A, § 4.)

As a procedural matter, please add me to your mailing list or email list for any future public notices issued by the FAA relating to the EA or future EIS, and adoption of the Proposed Action. 40 C.F.R. § 1506.6(b).

Thank you in advance for your consideration of our client's comments and concerns. Please contact me if you have questions or require anything further from the City.

Very truly yours,



Andrea K. Leisy

Encl.

cc: (via regular mail w/Attachments provided via CD)

Senator Barbara Boxer
Senator Dianne Feinstein
Congressman Dana Rohrabacher
Congresswoman Mimi Walters
Honorable Chairman Todd Spitzer, Orange County Board
of Supervisors, Third District
Honorable Vice Chair, Lisa A. Bartlett, Orange County Board
of Supervisors, Fifth District
Honorable Supervisor Michelle Steel, Orange County Board
of Supervisors, Second District
Honorable Supervisor Andrew Do, Orange County Board of
Supervisors, First District
Honorable Supervisor Shawn Nelson, Orange County Board of
Supervisors, Fourth District
Honorable Mayor Edward D. Selich, Mayor, Newport Beach City Council
Honorable Mayor Pro Tem Diane B. Dixon, Newport Beach City Council
Honorable City Councilmember Tony Petros, Newport Beach City Council

Honorable City Councilmember Duffy Duffield, Newport Beach City Council
Honorable City Councilmember Kevin Muldoon, Newport Beach City Council
Honorable City Councilmember Scott Peotter, Newport Beach City Council
Honorable City Councilmember Keith D. Curry, Newport Beach City Council
David Kiff, City Manager, City of Newport Beach
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September 3, 2015

Mr. Aaron C. Harp
City Attorney
City of Newport Beach
100 Civic Center Drive
Newport Beach, CA, 92660

Subject: Noise-Related Comments on the Draft EA for the Southern California Metroplex Project

Reference: HMMH Project Number 307650.002

Dear Mr. Harp:

On behalf of HMMH, we are pleased to offer comments on the Draft Environmental Assessment (EA) for the Southern California (SoCal) Metroplex Project regarding potential noise-related issues of concern to the City of Newport Beach.

Background

The Federal Aviation Administration (FAA) has prepared a Draft Environmental Assessment (EA) "to document the potential environmental effects associated with the optimization of aircraft routes and the supporting airspace management structure serving aircraft operating under instrument flight rules (IFR) while departing from or arriving to the Southern California Metroplex area." The FAA made the Draft EA available for public review and comment on June 10, 2015 and will accept written comments until September 8, 2015.

The City of Newport Beach retained HMMH to assess and comment on the noise analyses and results presented in the Draft EA, with a primary focus on proposed changes in procedures affecting operations at John Wayne-Orange County Airport (SNA) and any anticipated effects on residents of Newport Beach.

In preparing these comments we reviewed and relied on the following primary sources:

- Documentation provided on the FAA's SoCal Metroplex EA Website (http://www.metroplexenvironmental.com/socal_metroplex/socal_docs.html), including:
 - SoCal Metroplex Draft EA sections:
 - Chapter 1 - Background
 - Chapter 2 - Purpose and Need
 - Chapter 3 - Alternatives
 - Chapter 4 - Affected Environment
 - Chapter 5 - Environmental Consequences, Section 5.1 - Noise
 - SoCal Study Team Final Report (January 2013)
 - SoCal Metroplex Aircraft Noise Technical Report (May 2015)
 - SoCal Design and Implementation Team Tech Report (June 2015)
 - Supplemental Materials, including:
 - Google Earth files for:
 - SoCal Metroplex Draft EA Procedures and NIRS Tracks – SAN and SNA only
 - SoCal Metroplex Draft EA Noise - Grid Points - Orange County
 - TARGETS Distribution Packages for proposed SNA procedures
 - Flight track plots prepared by SNA staff and provided by the City for samples of Runway 20 departures following various Standard Instrument Departures (SIDs).¹
 - Current SNA instrument procedures descriptions obtained from the AirNav website entry for SNA (<http://www.airnav.com/airport/ksna>)
 - Information provided by the FAA at the August 12, 2015 "SNA SoCal Metroplex Airport Outreach" meeting.

¹ Track plots also were provided for some corresponding departures prior to the renumbering of the runway from 19 to 20, to account for magnetic variation.

Comments

HMMH focused this analysis on four areas:

1. Assessment of the adequacy of the noise analysis and associated documentation presented in the EA for compliance with the National Environmental Policy Act (NEPA).
2. Assessment of proposed Runway 20 instrument departure procedures.
3. Discussion and presentation of noise modeling results.
4. Recommendation of post-implementation procedure monitoring, assessment, and refinement.

1. ADEQUACY OF THE NOISE ANALYSIS AND ASSOCIATED DOCUMENTATION FOR COMPLIANCE WITH NEPA

FAA's Proposed Action in the Draft EA is a collection of 179 different flight procedures, including new and revised Area NAVigation (RNAV) Standard Terminal Arrival Routes (STARs), RNAV Standard Instrument Departures (SIDs), existing and revised conventional STARs, existing and revised conventional SIDs, and new Required Navigational Performance (RNP) approaches. Table 3-2 of the Draft EA identifies 14 new or updated Proposed Action procedure routes for SNA, comprised of seven SIDs, five STARs, and two RNP approaches.²

The Draft EA is concise, considering the scale of the project. Most information regarding the noise analysis is contained in the Aircraft Noise Technical Report, which describes the modeling methodology, noise model inputs, and results; Section 4.3.1, "Noise," of the Draft EA provides a high-level summary of that information.

We offer the following comments on several aspects of this topic.

1.1 Noise Modeling Methodology

The FAA used an industry-standard noise model, the FAA's "Noise Impact Routing System" (NIRS) to conduct the noise analysis. Section 3.1 "Noise Model" of the SoCal Metroplex Aircraft Noise Technical Report states (on pages 3-1 and 3-2):

The version of NIRS which was used for the SoCal Metroplex EA is NIRS Version 7.0b, Build 3, the latest version at the time the analysis was completed. It must be noted that Aviation Environmental Design Tool (AEDT) has presently been adopted for regional airspace environmental analysis, and has recently subsumed NIRS functionality in being identified as the officially endorsed FAA tool for environmental modeling and analysis metrics (Noise, Fuel Burn and Emissions) output for regional airspace redesign/analysis projects. The SoCal Metroplex EA is grandfathered to use NIRS as are other projects that fall under the Metroplex umbrella that were initiated prior to the official release of AEDT 2a on March, 21, 2012. Testing of AEDT relative to noise and fuel burn metrics have substantiated that the new tool provides environmental metrics output results that are in concert with results that are expected when using the NIRS tool for regional airspace redesign analysis projects.

The use of the NIRS is consistent with industry-standard practices in place at the time the analysis was initiated. Nevertheless, as discussed below, we recommend requesting an expanded NIRS analyses to better reflect certain local operational and noise assessment issues of specific concern.

1.2 Noise Analysis Objectives – Use of DNL Metric, rather than CNEL

Section 4.3.1.1, "Noise Modeling Methodology," of the Draft EA States:

To comply with NEPA requirements, the FAA has issued guidance on assessing aircraft noise in FAA Order 1050.1E. This guidance requires that aircraft noise analysis use the yearly Day-Night Average Sound Level (DNL) metric. The DNL metric is a single value representing the aircraft sound level over a 24-hour period and includes all of the sound energy generated within that period. The DNL metric includes a 10-decibel (dB) weighting for noise events occurring between 10:00 P.M. and 6:59 A.M. (nighttime). This weighting helps account for the greater level of annoyance caused by nighttime noise events. Accordingly, the metric essentially equates one nighttime flight to 10 daytime flights.³

² Other materials provided on the SoCal Metroplex website list larger numbers of proposed-action procedures, but these lists include procedures that continue unchanged from the existing-conditions and no-action cases.

³ Section 2, "Noise Analysis Objectives," of the Noise Technical Report (May 2015) states (pages 3-1 and 3-2):

The use of DNL is inconsistent with Section 14.1a of FAA Order 1050.1E, CHG 1 (March 20, 2006), which states: "The FAA recognizes CNEL (community noise equivalent level) as an alternative metric for California."⁴ In HMMH's experience, the most common industry practice is to use CNEL for aviation noise analyses conducted for California airports, including analyses prepared for FAA, use, review, and approval. This practice is followed for consistency with a Caltrans Division of Aeronautics requirement that airports to describe cumulative exposure in terms of CNEL.⁵ The use of DNL also is inconsistent with the City of Newport Beach Noise Ordinance and General Plan Noise Element, which specify noise limits and policies in terms of CNEL, not DNL.

CNEL is similar to DNL, with an added "evening" period, from 7:00 P.M. to 10:00 P.M., during which every aircraft operation is equated to three daytime operations, which results in approximately a 4.8 dB weighting.

In addition to consistency with local and state regulations and practices, the use of CNEL may be of particular significance when assessing noise exposure from operations at SNA, because two County regulations⁶ prohibit commercial departures between 10 P.M. and 7 A.M. (8 A.M. on Sundays) and commercial arrivals between 11 P.M. and 7 A.M. (8 A.M. on Sundays). These prohibitions—in particular the departure restrictions starting at 10 P.M.—are likely to induce commercial aircraft operators; e.g., airlines; to schedule operations during the evening hours, so as to avoid penalties associated with violation of the curfew. To the extent that these prohibitions do increase evening operations, use of DNL may understate the effect relative to CNEL.

The degree to which the proposed action would have a greater noise impact when assessed in terms of CNEL can only be determined through a CNEL-based analysis, as recognized by FAA Order 1050.1E. Consistency with local and state regulations would require a CNEL analysis. We recommend requesting that the FAA present such an analysis as part of the Final EA and in response to these comments.

1.3 Noise Analysis Objectives – Procedure Profiles

Section 2.7 of the SoCal Metroplex Aircraft Noise Technical Report, "Use Standard Procedure Profiles with Air Traffic Control Altitude Control Points," (page 2-11) states:

Aircraft within the Southern California Metroplex operate in accordance with standardized air traffic control procedures. To model existing and proposed procedures, arrival and departure profiles were designed to meet certain altitude restrictions above 3,000 feet [above ground level, AGL] as set by air traffic control, and to use standard procedure profile data provided by NIRS below 3,000 feet AGL.

The use of standard procedure profile data (e.g., the noise model inputs related to climb rates, speeds, and power settings that the model uses to calculate noise emissions) below 3,000 feet AGL may not be appropriate when modeling departures from SNA, because other provisions of the previously cited County regulations⁷ set energy-averaged single event noise exposure level (SENEL) limits for certain classes of aircraft that aircraft operators must meet. In order to comply with these regulations, many aircraft operators have developed SNA-specific "noise abatement departure profiles" (NADPs) which differ from standard procedures utilized at most airports. It is accepted industry practice to develop "user-defined" profiles for modeling such procedures. For

The FAA has developed specific guidance and requirements for the assessment of aircraft noise in order to comply with National Environmental Policy Act (NEPA) requirements. This guidance, specified in FAA Order 1050.1E, requires that aircraft noise be analyzed in terms of the yearly DNL metric.

⁴ FAA Order 1050.1E was replaced by Order 1050.1F on July 16, 2015, after publication of the Draft EA. However that update also recognizes use of CNEL in California.

⁵ California Code of Regulations (CCR). 1990. Title 21, Subchapter 6, Noise Standards. Register 90. No. 10, 3/10/90. California Division of Aeronautics, Department of Transportation. Sacramento, CA.

⁶ Section 2.34, "Permitted Commercial Operations Hours," of the County's "Phase 2 Commercial Airline Access Plan and Regulation (October 1, 1990 – December 31, 2030)," Amended Through July 21, 2015, and Article 3, "Noise," Sec. 2-1-30.4.(c), "Commercial airline operations," of the County's "General Aviation Noise Ordinance."

⁷ Sections 2.11, "Class A Aircraft," and 2.12 "Class E Aircraft," of the County's "Phase 2 Commercial Airline Access Plan and Regulation (October 1, 1990 – December 31, 2030)," Amended Through July 21, 2015, and Article 3, "Noise," Sec. 2-1-30.4.(a), "Commercial airline operations," of the County's "General Aviation Noise Ordinance."

noise analyses that airports prepare for federal purposes, FAA requires that airports prepare and submit extensive documentation describing the need for and development of such user-defined profiles, and approves their application on a case-by-case basis.

The degree to which non-standard departure profiles affect noise exposure in the environs of SNA can only be determined through development and application of such user-defined profiles in the modeling process. We recommend requesting that the FAA present such an analysis and include it in the Final EA for public review.

1.4 Development and Presentation of Noise Model Inputs

Reasonable documentation is provided on development of fleet mix (both existing and forecast), runway use, and flight track development methods. Airport layout, fleet mix, and runway use assumptions are documented in a reasonable fashion.

However, neither the Draft EA nor the Noise Technical Report provided documentation sufficient to understand the most critical modeling assumptions; i.e. the flight track geometry and utilization for existing, future no-action, and future proposed-action conditions. Differences in these modeling assumptions represent the fundamental effect – and essentially the purpose – of the project. The Noise Technical Report presents figures that depict the arrival and departure tracks for the various modelling conditions. However, the figures present the tracks for all study airports and all procedures simultaneously, which makes it impossible to consider individual airports, and the potential effects from changes to operations at those airports, let alone individual procedures. Moreover, there is no documentation of flight track assignment percentages, other than a statement in Section 3.10 that “The radar data sample acquired for the flight track analysis was used as a basis for this analysis.”

The “Supplemental Materials, Google Earth files for SoCal Metroplex Draft EA Procedures and NIRS Tracks” that were made available on the metroplex website following publication of the Draft EA improved upon this situation by providing a tool for selectively viewing and comparing the proposed-action and no-action procedure routes, flight tracks, and flight corridors. However, the tool only provides a high-level basis for comparing the various conditions. For example, the presentation of modelling flight tracks does not discriminate between or label “backbone” or “dispersion” flight tracks.

Once again, however, the supplemental materials do not present any information on the percentage or absolute utilization of the various procedures and tracks. This missing information is the most critical basis for understanding the proposed action and how it differs from existing and no-action conditions.

No publicly available documentation for the Draft EA noise analysis provides sufficient information on the anticipated application of the no-action or proposed-action flight procedures to draw complete conclusions regarding the scope of the proposed action, the extent to which it differs from existing or no-action conditions, or the reasonableness of the manner in which changes in noise exposure levels were modeled.

We recommend requesting that the FAA provide detail for the existing conditions case, and for the no-action and proposed-action alternatives on: (1) the assumed utilization of individual procedures and (2) the percentage utilization of individual flight tracks used in modeling each procedure.

2. PROPOSED RUNWAY 20 DEPARTURE PROCEDURES

The greatest community focus on aircraft noise at SNA relates to jet departures on Runway 20, in particular SIDs designed to lead aircraft down the center of Upper Newport Bay, to avoid overflight of residential areas east and west of the bay. The Draft EA and other material raise several questions regarding the modeling, design, and potential impacts of these procedures, as discussed in the following subsections.

2.1 Elimination of the TOING Waypoint from Runway 20 RNAV SIDs

The “STREL” RNAV SID⁸ is the most important existing procedure. It calls for aircraft to fly a 196° magnetic heading (essentially runway heading, which is published as 195.8°), to intercept a course of 175° to fly over the

⁸ On August 20, 2015, the FAA published the STREL4. The only difference from the STREL3 publication (other than the effective dates and procedure name) was the addition of language stating “TOP ALTITUDE: ASSIGNED BY ATC.” It is unlikely that this language would affect flight paths over the ground. Also, both procedures identify the same minimum and maximum altitudes for crossing STREL (1,400’ and 5,000’, respectively).

TOING waypoint (which is placed at the same location as SNA's Noise Monitor 7), and to continue on that same course until passing the STREL waypoint, which is approximately 1.6 nautical miles (1.9 statute miles) off the coast of Balboa Peninsula. The position of and close adherence to the TOING waypoint – to help “center” departure tracks over the bay – has been a primary noise abatement focus at SNA for many years.

The Draft EA addresses three proposed RNAV procedures that are designed to “overlay” the STREL SID, at least until aircraft pass the STREL waypoint: the FINZZ, HAYLO, and PIGGN SIDs. These procedures differ from the STREL SID in one particularly significant and troubling aspect; they eliminate the TOING waypoint.

We recommend requesting that the FAA modify the proposed Runway 20 RNAV SIDs to include the TOING waypoint. If the FAA is unwilling to do so, we recommend requesting that the FAA explain their justification for removing the TOING waypoint and the detailed analysis showing the effect of the removal of a critical waypoint for SNA departure procedures. The FAA should include this analysis in the Final EA or a revised and recirculated version of the Draft EA.

2.2 Modeling of Certain Key Procedures

As discussed in Section 1.4, the “Supplemental Materials, Google Earth files for SoCal Metroplex Draft EA Procedures and NIRS Tracks” provide a basis for viewing and comparing the Proposed-Action and No-Action Procedure Routes and the noise-modeling flight tracks used in NIRS to model each route. The Google Earth files also provide “flight corridor” boundaries for each procedure. Given the large number of no-action and proposed-action routes and tracks, it was not practical for HMMH to assess a substantial number. However, review and comparison of the Runway 20 jet departure procedures was feasible.⁹

Based on Table 3-2 in the Draft EA and other FAA documentation, HMMH understands that the following relationships apply to the no-action and proposed-action procedures for Runway 20 jet departures:

- The PIGGN RNAV SID is largely intended to replace the existing STREL RNAV SID.
- The FINZZ RNAV SID is largely intended to replace the existing conventional (non-RNAV) MUSEL SID.
- The HAYLO RNAV SID is largely intended to replace the existing conventional CHANNEL SID.

Comparison of the noise modeling flight tracks for these procedures led to the following observations and questions:

- The lateral dispersion of noise-modeling flight tracks and overall flight corridor boundaries for the PIGGN and STREL procedures are very similar. This is reasonable given that both are RNAV procedures and PIGGN is designed to closely overlay STREL, with the caveat that the elimination of the TOING waypoint is a continuing concern.
- The modeled HAYLO dispersion is similar in width to that for the conventional CHANNEL SID that it replaces, at least as far out as STREL. Maintaining the conventional SID's wide dispersion is inconsistent with the substitution of an RNAV SID. An RNAV SID should significantly reduce dispersion relative to the conventional SID that it overlays. We would expect the HAYLO RNAV SID to have narrower dispersion that is similar to that for the existing STREL and proposed PIGGN RNAV procedures.

We recommend requesting an FAA response to this matter.

- The modeled FINZZ dispersion is similar in width to that for the conventional MUSEL SID that it replaces and significantly more dispersed than those for the PIGGN procedure – at least as far out as STREL. Once again, maintaining the conventional SID's wide dispersion is inconsistent with the substitution of an RNAV SID. Since the FINZZ and PIGGN procedure steps are essentially identical out to the STREL waypoint, we would expect the modeled dispersion for both procedures to be essentially identical; i.e., similar to that observed for the existing STREL RNAV procedure.

We recommend requesting an FAA response to this matter.

- The noise-modeling flight tracks for the conventional MUSEL SID also appear to include tracks with left-hand turns (perhaps to the THERMAL and OCEANSIDE transitions) that are essentially identical to the

⁹ The Proposed Action Alternative included the Runway 20 PLZZA RNAV SID that did not apply to turbojet or turboprop aircraft; e.g., the PLZZA SID.

existing STREL and proposed PIGGN RNAV SIDs. This agreement is surprising, particularly given that the MUSEL procedure involves an initial turn from runway heading after crossing the Seal Beach VOR 118° radial to a 177° heading, whereas the STREL and PIGGN procedures involve flying runway heading to intercept a 175° heading to STREL. The MUSEL modeling tracks continue to overlay the STREL and PIGGN for some distance past STREL. This agreement – for at least a portion of the modeling tracks – is also surprising when comparing conventional and RNAV SIDs. HMMH understands that the MUSEL procedure is rarely used (although, as noted in Section 2.4, the Draft EA does not provide sufficient information to confirm this understanding).

We recommend requesting that the FAA address the rationale for the apparent consistency of the MUSEL modeling tracks with those for STREL and PIGGN.

2.3 Revision of Proposed Procedures after Publication of the Draft EA

FAA and its contractors use a software tool named “TARGETS” to design RNAV procedures, conduct “flyability assessments,” and support other FAA and aircraft operator evaluations. The FAA posted “TARGETS Distribution Package” documentation in the Supplemental Materials section of the metroplex website following publication of the Draft EA. These packages provide tables, text, and graphics that describe proposed RNAV procedures. This supplemental information further improved on the documentation regarding the development of noise modeling inputs discussed in Section 1.4 above, by providing precise information on critical RNAV design elements, such as waypoint types (i.e., flyover or flyby), leg types (e.g., course-to-fix, track-to-fix, heading-to-intercept, etc.), leg distances, altitudes, etc.

For all intents and purposes, the TARGETS packages provide noise modelers with critical information to use in developing key NIRS inputs necessary to model proposed RNAV procedures – in particular the backbone tracks. The introduction to TARGETS section of the Supplemental Materials section of the website states: “The information contained in the posted distribution packages are Draft and current as of the time the Draft EA was released.” It is reasonable to assume that the packages posted on the website are those that the noise modelers used in developing the NIRS inputs used to conduct the noise assessments presented in the Draft EA.

Approximately two months after publication of the Draft EA, the FAA posted “updated” TARGETS distribution packages for a number of RNAV procedures, including six RNAV SIDs and two RNAV STARS for SNA. These updated packages are dated August 25, 2015 and September 1, 2015. The original packages that they replace – and which were the basis of the Draft EA analyses – are dated March 5, 2015.

The FAA did not provide any information on the extent to which the revisions might affect modeling assumptions in the Draft EA or any commentary on potential changes in noise exposure that might be associated with the revisions. Most significant for Newport Beach, updated TARGETS packages were provided for the proposed FINZZ, HAYLO, and PIGGN RNAV SIDs. As discussed in previous sections of this letter, these SIDs apply to Runway 20 jet departures down Newport Bay, which historically have been the primary operations of concern to Newport Beach residents.

Revisions to proposed RNAV procedures made approximately two months after publication of the Draft EA, without any associated discussion of potential effects on noise modeling assumptions or results, call into question the extent to which the noise analyses presented in the Draft EA reflect the proposed project impacts.

We recommend requesting that the FAA explain: (1) what changes in the procedures required publication of updated TARGETS packages, and (2) why no noise modeling analyses or results were presented to address the revised procedures.

2.4. SNA ATCT Noise Abatement Departure Procedures

The FAA Airport Traffic Control Tower (ATCT) at SNA has established “Standard Operating Procedures” (SOPs), which address “Departure Noise Abatement Procedures” in section 7-3-3, as follows:

7-3-3. DEPARTURE NOISE ABATEMENT PROCEDURES

Runway 20 John Wayne J & M Class Departures - Unless operational requirements dictate taking action to correct an adverse or unsafe situation, MUSEL and STREL departures must not be vectored until passing abeam STREL. Channel departures must not be vectored until crossing the SLI 132R (the shoreline at Balboa Island).

City, County, and SNA representatives raised the importance of continuing these procedures in a form that reflects the full array of Runway 20 RNAV procedures. Specifically, these stakeholders requested that this section of the SOP be revised to specify that no Runway 20 departures following any RNAV SID will be vectored until passing abeam¹⁰ STREL, unless operationally required for reasons other than operator or FAA convenience.

A revised SOP entry of this type would be consistent with the Proposed-Action noise-modeling flight tracks presented in the supplemental Google Earth tool. Those modeling tracks do include limited numbers of tracks that reflected operations vectored on course prior to STREL. However, those tracks are outliers, limited in number, and consistent in scope and number with comparable tracks modeled in the No-Action alternative. Of course, the key consideration is not the number of these modeling tracks, but how often the FAA assigns them in practice. As discussed in Section 1.4, the Draft EA does not provide information on the percentage utilization of individual tracks that was assumed in the noise modeling for either the No-Action or Proposed-Action Alternative.

FAA representatives agreed to provide a draft of revised language to address this request.

We recommend requesting that the FAA provide the promised language in the Final EA, if not before. We also recommend that the City work with the County and SNA staff to monitor the frequency with which such early vectors are assigned, when the new procedures are implemented.



3. DISCUSSION AND ANALYSIS OF NOISE MODELING RESULTS

The Draft EA presents very terse discussions of the noise analysis results. For all intents and purposes, it simply reports that no significant noise impacts are predicted to result from the Proposed Action. With regard to population impacts, Section 5.1.3 simply reports that no population would experience increase DNL exposure that exceed FAA criteria for determining significant or reportable impact. The Noise Technical Report reports the magnitude of changes in predicted noise levels at Section 4(f) resources and historical/cultural properties identified within the General Study Area; however, these results are not depicted graphically, and are difficult to interpret without accompanying maps of the locations.

The “Supplemental Materials, Google Earth files for SoCal Metroplex Draft EA Noise - Grid Points - Orange County” that were posted on the metroplex website following publication of the Draft EA improved upon this situation by providing a tool for viewing detailed noise modeling results at Census block centroids, at evenly spaced one-half nautical mile grid points across the study area, at historic resources listed on the National Register of Historic Places, and at Section 4(f) properties (national parks and public recreational resources).

While its application at more than a few locations is very time-consuming, this tool does permit more detailed investigation into the general areas covered by the 45, 60, and 65 dB DNL noise exposure criteria that are the bases for determining significant or reportable changes under the FAA’s selected thresholds.

We recommend requesting that the FAA enhance this tool by adding Google Earth layers that depict the 45 to 65 dB DNL exposure levels in the form of noise contours, in five-decibel increments. This enhancement would greatly facilitate the use of the tool and permit interested parties to obtain a more nuanced understanding of changes in noise exposure.

4. POST-IMPLEMENTATION PROCEDURE MONITORING, ASSESSMENT, AND REFINEMENT

Our observation of and involvement in similar airspace procedure projects – ranging from projects for individual runways, individual airports, to full metroplexes – is that such a project can ultimately produce unintended consequences that can lead to adverse community reaction. These situations can occur even when the FAA and other participants have followed careful design processes and consideration of all stakeholder input – such as the input the FAA has sought from City, County, and airport representatives in two meetings after release of the Draft EA and other communications.

In our experience, the best way to address these unintended consequences is to plan for a suitable post-implementation monitoring, evaluation, and refinement. We recommend requesting that the FAA commit to at least a six-month period for this purpose, with interim assessments perhaps every two months, or to coincide with procedure publication cycles to permit. We also recommend requesting that the FAA commit to

¹⁰ The “abeam” terminology is appropriate, since STREL is a “fly-by” waypoint in the proposed procedures.

extending the period if required to address significant deviation of actual operations from those assumed in the EA and associated design materials.

A six-month period is not exceptionally long. For example, at Boston-Logan, the FAA undertook a 12-month evaluation period for the implementation, assessment, and refinement of the Runway 33L RNAV project.

* * * * *

We appreciate the opportunity to assist the City on this important procedure and environmental review process. Please do not hesitate to contact either of the undersigned if you have any questions or require further assistance.

Sincerely yours,

Harris Miller Miller & Hanson Inc. d/b/a/ HMMH



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- c: M. Torres, City of Newport Beach
- D. Kiff, City of Newport Beach
- T. Edwards, Esq.
- A. Leisy, Remy|Moose|Manley



Ted Baldwin

Senior Vice President

Experience

1984-present, HMMH
 1981-1984, Bolt Beranek and Newman Inc.
 1977-1981, Massachusetts Port Authority

Education

M.C.R.P., Harvard University, Cambridge, MA, 1977, Department Scholar
 B.S., Engineering, Cornell University, Ithaca, NY, 1975, Honors Graduate

Affiliations

Federal Aviation Administration Certificate of Appreciation, 1989
 Member, Institute of Noise Control Engineering, 2004-present
 Associate Member, Acoustical Society of America, 1985-present

Ted Baldwin specializes in airport environmental analysis. His professional experience includes 14 CFR Part 150 noise compatibility planning studies, Part 161 use restriction studies, state and federal environmental impact assessments, noise elements of Airport Master Plan studies, aircraft noise abatement and compatible land use planning, design and use of noise and operations monitoring systems, noise measurement and modeling, and expert testimony.

In 1989, Mr. Baldwin received the first "Federal Aviation Administration Certificate of Appreciation" awarded by the New England Region to a non-FAA employee. The award recognized his "ability to deal objectively with the controversial issue of airport noise," and his "sensitivity and balance in representing both the pro and con of the noise issue."

In 2008, he was technical lead on a team assisting Witham Field (Stuart, Florida) in a "noise abatement departure profile demonstration" that won the Florida Airports Council's first "Noise Abatement Award" "to recognize a project that reduces the impacts on a neighboring community using operational measures." The Florida Department of Transportation subsequently presented the team with the "2009 General Aviation Airport Project" award "in recognition of outstanding achievements in airport aesthetics, safety, and service in the State of Florida."

Before entering consulting, Mr. Baldwin held several responsible staff positions at the Massachusetts Port Authority (Massport). Through his Massport experience he gained an understanding of an airport operator's perspective on planning, operational, and environmental issues.

"Ted Baldwin is a man upon whom we can rely to be informed, accurate, and truthful in what he tells us."

Cormac Giblin, Former Chairman of the City of Naples (FL) Airport Authority

Representative Projects

14 CFR Part 150 Studies

- Teterboro Airport, NJ (2014-present), *Project Manager*
- Fort Lauderdale Executive, FL (1985, 1997, 2002, 2015), *Principal-in-Charge*
- Burlington International, VT (1989, 2008, 2015), *Principal-in-Charge*
- Akron-Canton, OH (2015), *Project Manager and Principal-in-Charge*
- Portsmouth International, NH (2014), *Principal-in-Charge*
- Metropolitan Nashville International, TN (2012), *Principal-in-Charge*
- Van Nuys Airport, CA (2011), *Principal-in-Charge*
- Witham Field / Martin County, FL (2011), *HMMH Project Manager*
- Naples Municipal, Naples, FL (1997, 1998, 2000, 2010), *Project Manager*
- Fresno Yosemite International, Fresno, CA (2008), *Principal-in-Charge*
- Lehigh Valley Internat'l, Allentown, PA (1992, 2005), *Project Manager*
- Manchester Airport, Manchester, NH (2004), *Principal-in-Charge*
- Scottsdale Airport, AZ (2004), Part 161 assistance, *Project Manager*
- St. Lucie County International, Fort Pierce, FL (2004), *Project Manager*
- Piedmont Triad International, Greensboro, NC (2004), *Project Manager*
- Vero Beach Municipal, Vero Beach, FL (2004), *Project Manager*
- Boca Raton, FL (2001), *Project Manager*
- Tampa International, Tampa, FL (2000), *Project Manager*
- Salt Lake City International, UT (1986, 1998), *Project Manager*
- Myrtle Beach Jetport, SC (1994), *Principal-in-Charge*
- Chattanooga Municipal Airport, TN (1994), *Project Manager*
- Fort Lauderdale – Hollywood International, FL (1994), *Project Manager*
- Palm Beach International, West Palm Beach, FL (1994), *Project Manager*

Ted Baldwin, Senior Vice President

- Youngstown Airport, Youngstown, OH (1994), *Project Manager*
- Brunswick Municipal Airport, GA (1992), *Project Manager*
- Capital City Airport, Lansing, MI (1992), *Project Manager*
- Gulfport-Biloxi Municipal, Gulfport, MS (1991), *Project Manager*
- Boca Raton, FL (1991), *Project Manager*
- Mobile Regional, Mobile, AL (1990), *Project Manager*
- Sikorsky Memorial, Bridgeport, CT (1989), *Project Manager*
- Middle Georgia Regional, Macon, GA (1989), *Project Manager*
- Jackson-Evers International, Jackson, MS (1989), *Project Manager*
- Danbury Municipal, Danbury, CT (1987), *Project Manager*
- Nantucket Memorial, MA (1987), *Noise Abatement Analysis*
- Groton-New London, Groton, CT (1985), *Assistant Project Manager*
- Boston Logan International (map only), MA (1984), *Project Manager*
- T.F. Green State, Providence, RI (1982), *Assistant Project Manager*

"Ted is one of the most knowledgeable consultants I have had the pleasure to work with, and I am pleased to say that it has been a 'pleasure' to work with him.

He has certainly made a significant contribution to aviation by helping reduce real noise impacts to communities around America's airports, as well as helping to reduce the tension and conflicts between the airports and neighbors."

Roger A. Johnson, Deputy Executive Director, Los Angeles World Airports

14 CFR Part 161 and Related Studies

- Partial Nighttime Curfew, Los Angeles International Airport, CA (2012) *Regulatory Guidance and Outreach Assistance*
- Multi-Element Part 161 Study for Fixed-Wing and Helicopter Operations, Van Nuys, CA (2010), *Principal-in-Charge and Project Manager*
- FAA Part 161 Grandfather Application for Stage 1 and 2 Phaseout, Van Nuys Airport, CA (2010), *Project Manager*
- FAA Part 161 Grandfather Application for Terminal Capacity Agreement Extension, Westchester County Airport, NY (2003) *Noise Element*
- Stage 2 Jet Ban, Naples Municipal Airport, FL (2001), *Project Manager*

Airport Noise and Operations Monitoring Systems

- Charlotte County Airport, Punta Gorda, FL (2014), *Principal-in-Charge*
- Witham Field / Martin County Airport, Stuart, FL (2011), *Project Manager*
- Centennial Airport, Arapahoe County, CO (2010), *Senior Advisor*
- Denver International Airport, Denver, CO (2008), *Project Manager*
- Reno-Tahoe International, Reno, NV (2006), *Assistant Project Manager*
- San Francisco International, CA (2004), *Assistant Project Manager*
- East Hampton Airport, NY (2004), *Senior Advisor*
- Airports Company South Africa (nine airports) (2003), *Project Manager*
- Boston Logan Internat'l and Hanscom Field, MA (2003), *Project Manager*
- Indianapolis International, Indianapolis, IN (2003), *Project Manager*
- Lehigh Valley International, Allentown, PA (2003), *Project Manager*
- Louisville International, Louisville, KY (2003), *Project Manager*
- Raleigh Durham International, Raleigh, NC (2003), *Project Manager*
- San Antonio International, TX (2003), *Assistant Project Manager*
- Tampa International, Tampa, FL (2001), *Project Manager*
- Naples Municipal, Naples, FL (1997), *Project Manager*
- North Palm Beach County, FL (1997), *Project Manager*
- Palm Beach County Park, Lantana, FL (1997), *Project Manager*
- Palm Beach International, West Palm Beach, FL (1997), *Project Manager*
- Chicago O'Hare and Midway, Chicago, IL (1995), *Project Manager*
- Fort Lauderdale International, FL (1995), *Project Manager*
- Denver International, Denver, CO (1995), *Project Manager*
- John Wayne-Orange County, CA (1995), *Assistant Project Manager*

Ted Baldwin, Senior Vice President

- Louis Armstrong Internat'l, New Orleans, LA (1995), *Project Manager*
- Westchester County, White Plains, NY (1995), *Project Manager*
- Minneapolis-St. Paul, Minneapolis, MN (1993), *Project Manager*
- Salt Lake City International, Salt Lake City, UT (1993), *Project Manager*
- Port Columbus International, Columbus, OH (1992), *Project Manager*
- Denver Stapleton, Denver, CO (1988), *Project Manager*
- Baltimore-Washington International, MD (1986), *Project Manager*

Airport Master Plan Noise Analyses

“Ted and HMMH are valuable assets to the BCAD and Noise Abatement Committee (ANAC)... I have come to appreciate the objective and informative technical assistance Ted and his team bring to the committee meetings... He is always patient and willing to offer any support we need...”

Debora Van Valkenburgh, City of Fort Lauderdale resident, Fort Lauderdale - Hollywood International Airport Noise Abatement Committee (ANAC) member, and Former Fort Lauderdale Executive Airport Aviation Advisory Board Vice Chair

- Akron-Canton Regional Airport, OH (2014), *Principal-in-Charge*
- Metropolitan Nashville International, TN (2012), *Principal-in-Charge*
- Fort Lauderdale Executive, FL (1985, 1997, 2002), *Project Manager*
- Tampa International, Tampa, FL (2000), *Project Manager*
- Salt Lake City International, UT (1998), *Project Manager*
- Sikorsky Memorial, Bridgeport, CT (1995), *Project Manager*
- Fort Lauderdale – Hollywood International, FL (1994), *Project Manager*
- North Central State, Pawtucket, RI (1987), *Project Manager*
- Salt Lake City Municipal 2, Salt Lake City, UT (1987), *Project Manager*
- Danbury Municipal, Danbury, CT (1983), *Project Manager*

Environmental Assessments or Impact Studies

- Displaced Runway Thresholds EA, Naples Municipal, FL (2011), *Noise Element Project Manager*
- Noise Abatement Departure Flight Track EA, Fort Lauderdale Executive, FL, (2010), *Principal-in-Charge*
- California Environmental Quality Act (CEQA) Environmental Impact Report (EIR) for Stage 1 and 2 Phaseout, Van Nuys Airport, CA (2010), *Project Manager*
- Runway Extension EA, Lehigh Valley International, Allentown, PA (2007), *Noise Element Project Manager*
- Runway Extension EIS Noise Element, Palm Beach International, West Palm Beach, FL (1998), *Principal-in-Charge*
- Runway Extension EIS, Sikorsky Memorial, Bridgeport, CT (1998), *Noise Element P.M.*
- Parallel Runway EA, Salt Lake City Intern'l, UT (1992), *Noise Element P.M.*
- Runway Strengthening EA, Myrtle Beach, SC (1988), *Noise Element P.M.*

Other Noise Exposure, Abatement, and Land Use Compatibility Studies

- Helicopter Use Restriction Feasibility Analyses, East Hampton, NY (2012-15), *Project Manager*
- Helicopter Noise Abatement Procedure Effectiveness and Options, Fort Lauderdale Executive, FL (2012), *Principal-in-Charge*
- Noise Task Force Assistance, Ormond Beach, FL (2009), *Project Manager*
- Airport Noise / Hazard Zoning, Gainesville, FL (2009), *Project Manager*
- Noise Abatement Profile Study, Stuart, FL (2007), *Principal-in-Charge*
- Helipad Relocation, Witham Field, Stuart, FL (2006), *Principal-in-Charge*
- Noise Abatement Study, Hyannis, MA (1998), *Project Manager*
- Noise Exposure Updates, Dallas Love Field, TX (1983, 1984, 1985, 1986), *Project Manager*

Ted Baldwin, Senior Vice President

Expert Testimony and Litigation Support

Mr. Baldwin “demonstrated [his] ability to deal effectively with the controversial issue of airport noise,” “reflected a sensitivity and balance in representing both the pro and con of the noise issue,” and “successfully developed noise control programs that are consistent with aviation and community goals.”

Arlene B. Feldman, Former FAA New England Regional Administrator, when awarding Mr. Baldwin the first “Certificate of Appreciation for a non-FAA individual who has most significantly helped to promote recognition of the FAA

- Haynes et al. vs. Chesapeake Airport Authority, VA (2014)
- Telnack et al. vs. Martin County, FL (2010)
- Osipovs vs. Chesapeake Airport Authority, VA (2007)
- Naples (FL) Airport Authority vs. Federal Aviation Administration (2003)
- National Business Aviation Association and General Aviation Manufacturers Association vs. City of Naples (FL) Airport Authority (2001)
- Aircraft Owners and Pilots Assoc’n et al. vs. City of Chicago et al. (1995)
- Wakefield/Austin vs. Broward County, FL (1992)
- Stark vs. City of Atlanta, GA (1988)
- Sarasota-Manatee Airport Authority vs. Manatee County, FL (1986)
- Katsos et al. vs. Salt Lake City International Airport Authority, UT (1986)
- Gratkie et al. vs. Allegheny County (PA) Department of Aviation (1983)
- NBAA et al. vs. Westchester County, NY (1982)

Comprehensive Airport On-Call Noise Consulting Support

- Naples Municipal Airport, FL (1997 - present)
- Fort Lauderdale-Hollywood International Airport, FL (1990 - present)
- Palm Beach International Airport, FL (1990 - present)
- Fort Lauderdale Executive Airport, FL (1984 - present)

Representative Publications and Presentations

- “A ‘PERFECT STORM’ – Recent federal actions acknowledge that adverse effects extend beyond traditional noise contours,” Guest Editorial, Airport Noise Report, Vol. 25, No. 29, September 6, 2013, page 14
- “Martin County Airport / Witham Field Noise Abatement Departure Procedure (NADP) Demonstration,” Florida Airports Council Environmental and Noise Conference, Daytona Beach, FL (2009)
- “Survey of Helicopter Noise Abatement Procedures,” Florida Airports Council Environmental and Noise Conference, Daytona Beach, FL (2009)
- “What Do Users Say About Their Monitoring Systems?” Florida Airports Council Environmental and Noise Conference, Jacksonville, FL (2007)
- “The Naples Stage 2 Ban,” Airports Council International - North America Annual Conference; Toronto, Canada (2005)
- “Emerging Aircraft Noise Issues,” FAA/Airport Consultants Council National Environmental Workshop; Washington, D.C. (2000)
- “Political Acoustics: The Changing Dynamics of Aircraft Noise,” Florida Airport System Planning Process meetings, FL (2000)
- “The Anatomy of a Successful Project,” Airport Consultants Council Annual meeting; Palm Springs, CA (1997)
- “Hot Topics in Aviation Noise: A Selective List,” Florida Airports Council Noise Abatement and Community Affairs Seminar; Orlando, FL (1997)
- “Evolution of Airport Noise Monitoring Systems: Recent Achievements and Further Needs,” NOISE-CON 93; Williamsburg, VA (1993)
- “Limitations of Ldn in Airport Noise Assessments,” American Society for Testing and Materials, Noise Committee E-33-96; Bal Harbour, FL (1987)
- “Airport Noise Annoyance at Three Joint Air Carrier and General Aviation Airports,” Journal of the Acoustical Society of America, Vol. 77, No. 3, March 1985, page 1054 (with Fidell, et al.)



Eugene Reindel Vice President

Experience

1997-present, HMMH
1990-1997, The Boeing Company, Noise Engineering Laboratory

Education

M.E., Acoustics, Pennsylvania State University, State College, PA, 1995
B.S., Physics Engineering, Pacific Lutheran University, Tacoma, WA, 1989
Skilled Facilitator Intensive Workshop, Roger Schwartz & Associates Inc., Scottsdale, AZ 2009
Pathway to Principal, ZweigWhite, Boston, MA, 2005
FAA's Integrated Noise Model, HMMH Burlington, MA, 1997
Experiment and Uncertainty Analysis, Coleman and Steele, Seattle, WA, 1996
Occupational Hearing Conservation: A view from the '90s, American Speech-Language Hearing Association, Seattle, WA, 1994
High Frequency Damping Measurements, Cambridge Collaborative, Inc., Seattle, WA, 1994
Structural Dynamics Adequacy of High Tech Facilities: Rational Evaluating Methods, National Technology University, Seattle, WA, 1993
Occupational Noise and Vibration, Northwest Center for Occupational Health and Safety, Seattle, WA, 1993
Noise Control for Buildings and Manufacturing Plants, Hoover & Keith Inc, Seattle, WA 1991
Hearing Protection Devices and Hearing Conservation Programs, EAR Division, Cabot Corporation, Seattle, WA 1990

Affiliations

Member, Institute of Noise Control Engineering, 1995-present
Corporate Member, Southwest Chapter of the American Association of Airport Executives, 2000-present

As Aviation Environmental Services Group Leader, Vice President and Manager of the Sacramento Office, Gene Reindel manages a wide range of aviation noise consulting projects and provides technical support on aviation-related noise studies and noise measurement programs. His professional experience includes 14 CFR Part 150 Airport Noise Compatibility Planning studies, 14 CFR Part 161 Airport Noise and Access Restriction projects, aircraft noise certification measurements using 14 CFR Part 36 requirements, aircraft ground noise studies including low-frequency noise and ground run-up enclosures, residential sound insulation projects, and modeling of aircraft operations noise. He is often involved in preparing for and directing major field measurement programs and advising on the acquisition and analysis of data. Mr. Reindel is a trained facilitator and leads public outreach programs associated with controversial noise studies and programs. Because of his experience and education, Mr. Reindel is a training leader at HMMH and teaches courses in acoustics, sound measurements, and the FAA's Integrated Noise Model (INM).

Before joining HMMH, Mr. Reindel worked at the Boeing Commercial Airplane Company's Noise Engineering Laboratory in Seattle, WA. During his eight years at Boeing, he conducted a variety of work in acoustics and project management, ranging from hearing conservation to aircraft model testing inside an aero-acoustic wind tunnel, and actual aircraft flight tests.

Representative Projects

Aviation Projects

Aircraft Noise and/or Flight Track Monitoring Systems

- Centennial Airport, Centennial, CO (2009-2015), *Project Manager*
- Los Angeles World Airports, NOMS Maintenance Scope of Work, Los Angeles, CA (2010-2011), *Project Manager*
- Reid-Hillview, East San Jose, CA (2002-2010), *Project Manager*
- San Antonio International, San Antonio, TX (2002-2010), *Project Manager*
- Reno-Tahoe International, Reno, NV (2005-2009), *Project Manager*
- Beijing Capital International, Beijing, China (2004-2008), *Project Manager*
- East Hampton Airport, East Hampton, NY (2006-2007), *Acceptance Test Manager*
- San Francisco International, San Francisco, CA (2000-2007), *Project Manager*
- Truckee Tahoe, Truckee, CA (2005), *Project Manager*
- Ted Stevens Anchorage International, Anchorage, AK (2004), *Project Manager*
- San Diego International, San Diego, CA (2002-2004), *Assistant Project Manager*
- Lehigh Valley International, Allentown, PA (2000), *Technical Writer/Reviewer*

Airport/Aircraft Sound Insulation Programs

- Tweed-New Haven Airport, New Haven, CT (2014-present), *Principal in Charge*
- University of California San Francisco Mission Bay Medical Center, Residential Sound Reduction Program Implementation, San Francisco, CA (2014-present), *Principal in Charge*
- T.F. Green International Airport, Providence, RI (2013-present), *Principal in Charge*
- George W. Bush Intercontinental, Houston, TX (2011-present), *Principal in Charge*
- Louisville International, Louisville, KY (2008-present), *Principal in Charge*

Eugene Reindel, Vice President

- Cleveland Hopkins International, Cleveland, OH (2007-2014), *Principal in Charge*
- St. Louis International, St. Louis, MO (2009-2014), *Principal in Charge*
- Martin County Airport / Witham Field, Stuart, FL (2009-2014), *Principal in Charge*
- Buffalo International, Buffalo, NY (2006-2014), *Principal in Charge*
- Fort Lauderdale Hollywood International, Fort Lauderdale, FL (2008-2012), *Principal in Charge*
- Tulsa International, Tulsa, OK, (2006-2012), *Principal in Charge*
- Los Angeles International, Inglewood, CA (2004-2012), *Principal in Charge*
- San Diego International, San Diego, CA, (1999-2011), *Principal in Charge*
- Boston's Logan International, Boston, MA, (2004-2010), *Principal in Charge*
- Ted Stevens Anchorage International, Anchorage, AK (2004-2010), *Principal in Charge*
- Monterey Peninsula, Monterey, CA, (2000-2008), *Principal in Charge*
- Pittsburgh International, Pittsburgh, PA (1998-2006), *Project Manager*
- General Mitchell International, Milwaukee, WI (1998-2005), *Noise Measurements and Report*
- Tampa International, Tampa, FL, (2004), *Assistant Project Manager*
- Minneapolis-St. Paul International, Minneapolis, MN (2002), *Noise Measurements and Report*
- Portable Classroom Noise Reduction, San Francisco International (2001), *Project Manager*

Airport Noise On-Call and Facilitation Projects

- City of Fresno, Department of Airports, Fresno, CA (2010-present), *Principal in Charge*
- Oakland International Airport, Oakland, CA (2007-present), *Project Manager*
- Salt Lake City International Airport, Salt Lake City, UT (2003-present), *Project Manager*
- Raleigh-Durham International Airport, Raleigh, NC (2010-2013), *Principal in Charge*
- Los Angeles International Airport/Community Noise Roundtable, Los Angeles, CA (2009-2010), *Facilitator*
- San Francisco International Airport, San Francisco, CA (1999-2007), *Project Manager*
- Sacramento County Airport System (Sacramento International, Sacramento Executive, and Mather Field), Sacramento, CA (2002-2005), *Project Manager*

14 CFR Part 150 Airport Noise Compatibility Planning Studies

- Fresno Yosemite International, Fresno, CA (2015-present), *Principal in Charge*
- Newark Liberty International Airport, New Jersey, NY (2015-present), *Project Manager*
- Ontario International, Ontario, CA (2014-present), *Principal in Charge*
- Great Falls Int'l, Great Falls, MT (2013-present), *Principal in Charge*
- San Antonio Int'l, San Antonio, TX (2014), *Project Manager*
- Merrill Field, Anchorage, AK (2012-2014), *Principal in Charge*
- Louisville International, Louisville, KY (2010-2011), *Project Manager*
- San Diego International, San Diego, CA (2007-2011), *Project Manager*
- Fresno Yosemite International, Fresno, CA (2004-2007), *Assistant Project Manager*
- Reid-Hillview, San Jose, CA (1999-2004), *Assistant Project Manager*

"Most important to me has been the ability to call Mr. Reindel at anytime throughout the process and get answers to important questions as they arise."

Mr. Bert Ganoung, Manager, Aircraft Noise Abatement, San Francisco International Airport

"Mr. Reindel presents noise information that is easily understood and that no other acoustical expert with whom my firm has worked has communicated this information as well."

Mr. Michael Hotaling, Vice President, C&S Engineers, Inc.

Eugene Reindel, Vice President

- Boca Raton Airport, Boca Raton, FL (2001), *Technical Writer/Reviewer*
- Anchorage International, Anchorage, AK (1999), *Airport Staff Trainer*

14 CFR Part 161 Airport Noise and Access Restriction Project

- Los Angeles International Airport, Los Angeles, CA (2011-2014), *Assistant Project Manager*

Airport Environmental Studies

- Reid-Hillview Airport EIR Noise Element, East San Jose, CA (2010-2012), *Principal in Charge*
- New Ivanpah Airport EIS, Ivanpah Valley, NV (2006-2010), *Technical Lead for Noise Measurement Program*
- Runway Extension EA, Portland International, Portland, OR (2007-2008), *Project Manager*
- Modernization Program EIS, Chicago O'Hare, Chicago, IL (2003-2005), *Project Manager*
- Runway Extension EA, Eagle County Airport, Eagle, CO (2003-2005), *Project Manager*

California Airport Land Use Compatibility Plan Updates

- San Bernardino International, San Bernardino, CA (2007-2011), *Principal in Charge*
- California Department of Transportation (Caltrans) Airport Land Use Handbook Update, Sacramento, CA (2009-2010), NextGen Task Area, *Principal in Charge*
- 12 civil and 4 military airports, San Diego County Regional Airport Authority, San Diego, CA (2004-2010), *Principal in Charge*
- Land Use Plan Update, Travis Air Force Base, Fairfield, CA (2000-2001), *Assistant Project Manager*

Airport Ground Noise Studies

- Noise Barrier Feasibility Study, Tweed-New Haven Airport, New Haven, CT (2015-present), *Principal in Charge*
- Ground Noise and Barrier Analysis Study, Milwaukee International Airport, Milwaukee, CA (2013-present), *Principal in Charge*
- Ground Run-up Enclosure Siting Study, Los Angeles International Airport, Los Angeles, CA (2014-2015)
- Ground Engine Run-Up Enclosure Study, Los Angeles International Airport West Aircraft Maintenance Area, Los Angeles, CA (2013), *Principal in Charge*
- Low-Frequency Noise Study, San Francisco International, San Francisco, CA (2000-2003), *Project Manager*
- Ground Engine Run-up Enclosure Study, Seattle-Tacoma International, Seattle, WA (2001), *Assistant Project Manager*
- Ground Engine Run-up Enclosure Acceptance Noise Test, Portland Int'l (2001), *Noise Measurements*
- North Taxiway Extension Noise Study, San Diego International, San Diego, CA (1999-2001), *Project Manager*
- East Boston Hill Effects Study, Boston-Logan International, Boston, MA (1998-2001), *Technical Lead*
- Low-Frequency Noise Study, Minneapolis-St. Paul International, Minneapolis, MN (1997-2001), *Noise Analyst*
- Engine Run-up Study, Minneapolis - St. Paul International, Minneapolis, MN, (1998), *Technical Analyses*
- Airport Low-Frequency Noise Study, Baltimore-Washington International, Baltimore, MD (1997), *Noise Analyst and Report Writer*

Eugene Reindel, Vice President

Other Airport Noise Studies

- Southern California Metroplex Preliminary Design Review, Los Angeles, CA (2011-present), *Project Manager*
- Annual Noise Report, Louisville International Airport, Louisville, KY (2010-present), *Principal in Charge*
- Noise Assessment of the Proposed Runway End Safety Area (RESA) Alternatives, Vancouver International Airport, Vancouver, BC (Canada) (2012), *Principal in Charge*
- INM Accuracy for GA Aircraft, Airport Cooperative Research Program, Transportation Research Board (2011-2012), *Project Manager*
- California Airport Noise Variance Review, San Jose International Airport (2011-2012), *Principal in Charge*
- Airport Noise Exposure Contours, Palomar Airport, Carlsbad, CA (2010), *Principal in Charge*
- Permanent Noise Monitor Review, Toronto International Airport, Toronto, Canada (2009-2010), *Principal in Charge*
- Aircraft Noise Compatibility, Beijing Capitol International Airport, Beijing, China (2008-2009), *Project Manager*
- Noise Monitor Site Assessments, Fort Lauderdale International, Fort Lauderdale, FL (2007), *Acoustical Advisor*
- Noise Compatibility Study, Willow Lake Airport, Willow Lake, AK (2006-2007), *Principal in Charge*
- Airport Master Plans, County of Santa Clara (Reid Hillview, Palo Alto, and South County Airports), San Jose, CA (2003-2007), *Project Manager*
- Cargo Operations Analysis, March Air Reserve Base, Riverside, CA (2004), *Project Manager*
- Woodcreek Noise Measurements, Houston Intercontinental Airport, Houston, TX (2001-2002), *Project Manager*
- Noise Mitigation Study, Aurora State Airport, Aurora, OR (2001-2002), *Project Manager*
- City-by-City Noise Measurements, San Francisco International, San Francisco, CA (2000), *Project Manager*
- Airport Noise Analysis for North Natomas, County of Sacramento, CA (1999-2000), *Assistant Project Manager*
- Early Turn Study, Portland International, Portland, OR (1999), *Noise Analyst and Report writer*
- Noise Abatement Departure Procedures Analysis, Palm Beach International, West Palm Beach, FL (1998), *Noise Analyst*

Aircraft Noise Projects

- Republic of China Air Force Aircraft for INM Database, Taiwan (1999-2000), *Project Manager*
- Stage 2 Business Jet Hushkit Noise Certification Measurements, Button Willow, CA (1999-2000), *Project Manager*
- Aircraft Noise Measurement Program, Grand Canyon National Park (1999), *Assistant Project Manager*
- INM Accuracy Study for Lockheed and the FAA, (1998-1999), *Noise Analysis*

Eugene Reindel, Vice President

Helicopter Noise Studies

- University of California Helipad Noise Study, Los Angeles, CA (2009), *Principal in Charge*
- University of California Hospital Helipad EIR, San Francisco CA (2007-2009), *Principal in Charge*
- San Francisco General Hospital Helipad EIR, San Francisco, CA (2004-2007), *Project Manager*
- Mohler Residential Helipad, Livermore, CA (2004), *Project Manager*
- Duck Pond Vineyards Helicopter Noise Analysis, Sunol, CA (2001-2002), *Technical Advisor*
- Redding Medical Center Rooftop Helistop Noise Analysis, Redding, CA (2000), *Technical Reviewer*

Rail Projects

- LRT Phase II South Corridor Extension, Sacramento, CA (2002-2004), *Noise and Vibration Measurements*
- BART Extension, Hayward/Warm Springs, CA (2002), *Noise Measurements*
- Santa Ana Double Track Noise Measurements, Santa Ana, CA (2000-2001), *Noise Measurements and Analysis*
- CSX/Conrail/Norfolk Southern Freight Rail Merger, Illinois/Indiana (1998), *Noise Measurements*
- Seattle-Tacoma Light Rail Transit Vibration Analysis, Seattle, WA (1998), *Vibration Data Analysis*
- Dallas Area Light Rail Transit, Noise and Vibration Measurements (1998), *Noise and Vibration Measurements*

Industrial and Community Projects

- Wag Pet Hotel Community and Employee Noise Exposure, Sacramento, CA (2005-2006), *Principal in Charge*
- Cheyenne Pump Station Noise and Vibration Analysis, Las Vegas, NV (2003-2004), *Project Manager*
- Holy Cross Lutheran Church Expansion Noise Analysis, Rocklin, CA (2002-2004), *Project Manager*
- MDAD Employee Noise Exposure Survey, Miami International, Miami, FL (2001), *Assistant Project Manager*
- Chiller Noise Analysis and Control, San Diego International, CA (2000), *Project Manager*
- Sierra Grain Terminal Noise Analysis Critique, Stanislaus County, CA (1999), *Project Manager*
- Noise Analysis of a Property Development Near Hong Kong's New Airport (1997-1999), *Assistant Project Manager*

Highway Projects

- State of California Sound Insulation Working Group, Sacramento, CA (2005), *Professional Advisor*
- US-101 Noise Measurements, Marin County, CA (2001), *Assistant Project Manager*
- San Fernando Valley BRT project, Los Angeles, CA (2001), *Noise Measurements*
- I-495 Alternatives Development Study, VA (1997-1998), *Noise Impact Analysis*

Eugene Reindel, Vice President

Expert Testimony and Litigation Support

- Briggs v. City of Palmer, Palmer Airport Noise Assessment, Palmer, AK (2010-2013)
- Noise Assessment, Sierra Pacific Industries, Lincoln, CA (2007)
- Fickewirth v. Lakeview Farms Hunting Preserve, Lincoln, CA (2004)
- Perez v. Ultra Truck Works, Inc., Elk Grove, CA (2003)
- Schnee Studios v. MTA, Los Angeles, CA (2002)
- Larrabee Studios v. MTA, Los Angeles, CA (2002)
- Hsu v. Clark County, McCarran International, Las Vegas, NV (2001-2002)
- Sisolak v. Clark County, McCarran International, Las Vegas, NV (2001-2002)
- Fleischer v. Clark County, McCarran International Las Vegas, NV (2001-2002)
- Vacation Village v. Clark County, McCarran International. Las Vegas, NV (2001-2002)
- Alexis Park v. Clark County, McCarran International, Las Vegas, NV (2001-2002)
- Wesley Homes v. Port of Seattle, Seattle-Tacoma International (2001-2002)
- Aircraft Noise at House East of Santa Monica Municipal, Santa Monica, CA (2000-2001)
- Blaustein v. Clark County, McCarran International, Las Vegas, NV (1999-2000)

Training

- Skilled Facilitator Intensive Workshop, Roger Schwarz & Associates, Inc., 2009
- Pathway to Principal, ZweigWhite, 2005
- FAA's Integrated Noise Model, HMMH, 1997
- Experiment and Uncertainty Analysis, Coleman and Steele, 1996
- Occupational Hearing Conservation: A view from the '90s, American Speech-Language Hearing Association, 1994
- Structural Dynamics Adequacy of High Tech Facilities: Rational Evaluating Methods, National Technology University, 1993
- Occupational Noise and Vibration, Northwest Center for Occupational Health and Safety, 1993
- Noise Control for Buildings and Manufacturing Plants, Hoover & Keith Inc, 1991
- Hearing Protection Devices and Hearing Conservation Programs, EAR Division, Cabot Corporation, 1990

Representative Publications and Presentations

- Aircraft and Airport Noise Prediction and Control, w/ N. Miller, R. Horonjeff, Handbook of Noise and Vibration Control, Malcolm J. Crocker, John Wiley & Sons, Inc., 2007
- Survey Results: Noise and Operations Monitoring System Users, University of California Berkeley Aviation Noise and Air Quality Symposium, Palm Springs, CA, 2006
- "New" Airport Noise Metrics, Airport Planning, Design, and Construction Symposium, Reno, NV, 2006
- Testimony on Airport Noise Issues, California Assembly Select Committee on Airports and the Airline Industry Hearing, City of Brisbane, CA, 2003
- Low-Frequency Noise from Aircraft Start of Takeoff, w/ N. Miller, D. Senzig, R. Horonjeff, inter-noise 98, Christchurch, New Zealand, 1998

Ms. Andrea Leisy
Remy Moose Manley LLP
555 Capitol Mall, Suite 800
Sacramento, CA 95814

**RE: SOUTHERN CALIFORNIA METROPLEX ENVIRONMENTAL
ASSESSMENT – COMMENTS FOR CITY OF NEWPORT BEACH**

Dear Ms. Leisy:

This letter presents a list of comments per our review of the Draft SoCal Metroplex Environmental Assessment (EA).¹ Based upon the review of the EA, we believe that additional information and detail is required in order to understand the potential air quality, greenhouse gas, and health risk impacts of the Proposed Action. Our findings reflect the conclusions reached given the time available for our review and information available. To the extent that additional information or time is provided, our findings may change.

Date July 7, 2015

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Project Understanding

As described in the EA, the purpose of the SoCal Metroplex Project ("Proposed Action") is to optimize air traffic procedures on a regional scale, with an overall intent to use limited airspace as efficiently as possible for congested metroplex areas.² According to the EA, the Project may involve changes in aircraft flight paths and altitudes in certain areas, but would not result in any ground disturbance or increase the number of aircraft operations within the Southern California airspace.

Purpose

Ramboll Environ has prepared this letter on behalf of the City of Newport Beach based on our review of the EA. Specifically, Ramboll Environ has reviewed the analysis and methodology as it relates to potential air quality, greenhouse gas, and health risk impacts on the City of Newport Beach. Our findings are discussed in detail below.

¹ USDOT FAA. SoCal Metroplex EA. June 2015. Available online: http://www.metroplexenvironmental.com/socal_metroplex/socal_docs.html. Accessed: July 2015.
² USDOT FAA. SoCal Metroplex EA. June 2015. Available online: http://www.metroplexenvironmental.com/socal_metroplex/socal_docs.html. Accessed: July 2015.

EA Comments

1. **The proposed flight path changes may affect ambient air quality in Newport Beach, California.** Per the Public Workshop documents³ and the EA, the changes to the flight paths under the Proposed Action may affect ambient air quality in the vicinity of Newport Beach. However, there is insufficient description to clearly understand how the flight paths may change, most notably below 3,000 feet Above Ground Level (AGL) (i.e., the mixing height). The EA states “[c]hanges to flight paths under the Proposed Action would primarily occur at or above 3,000 feet AGL.”⁴ Given that the EA indicates that the changes are “primarily” at or above 3,000 feet, this suggests that there are some changes below 3,000 feet. The potential change in flight paths below 3,000 feet should be described in more detail. Without this detailed information, it is not possible to assess what the impacts on the City of Newport Beach may be, nor is it possible to assess if quantitative analyses are required. If there are flight path changes below 3,000 feet, a quantitative analysis would be appropriate to clearly identify whether or not the Proposed Action may result in air quality impacts.

2. **The EA should clarify how the FAA presumes Project conformity with State Implementation Plans.** According to the EA, the changes to flight paths under the Proposed Action would conform to the applicable State Implementation Plans (SIPs); however, inadequate justification for this statement is provided within the EA. In Section 5.8.1, the EA states changes to flight paths below mixing height are presumed to conform when modifications to procedures are designed to enhance operational efficiency. However, the EA also indicates that “the Proposed Action would result in a slight increase in emissions when compared to the No Action alternative.”⁵ It is not clear how the Proposed Action can simultaneously have enhanced operational efficiency and also have a slight increase in emissions. The Draft EA should clarify how the enhanced operational efficiency leads to an increase in emissions. Given that the general conformity *de minimis* thresholds⁶ specifically exist to determine when any increase in emissions is *de minimis*, we believe that if there is any increase in emissions below 3,000 feet, that they should be quantified and compared to the *de minimis* thresholds.

³ USDOT FAA. SoCal Metroplex EA. Public Workshop Documents. John Wayne Airport. http://www.metroplexenvironmental.com/docs/socal_metroplex/Presentations_150616-17/John_Wayne_Airport_Area_Departures_Proposed_Procedures.pdf. Accessed: July 2015.

⁴ USDOT FAA. SoCal Metroplex EA. Chapter 5 – Environmental Consequences. Section 5.5.1. Summary of Impacts. Available online: http://www.metroplexenvironmental.com/docs/socal_metroplex/SoCal_Metroplex_DEA_Ch5_Environmental_Consequences.pdf. Accessed: July 2015.

⁵ USDOT FAA. SoCal Metroplex EA. Chapter 5 – Environmental Consequences. Section 5.5.1. Summary of Impacts. Page 5-15. Available online: http://www.metroplexenvironmental.com/docs/socal_metroplex/SoCal_Metroplex_DEA_Ch5_Environmental_Consequences.pdf. Accessed: July 2015.

⁶ USEPA. *De Minimis* Levels. Available online: <http://www.epa.gov/airquality/genconform/deminimis.html>. Accessed: July 2015.

3. **The Climate section should provide additional detail regarding the greenhouse gas (GHG) emission estimates.** As discussed in Section 4.3.9, the "EA calculated total MT of CO₂ ...using NIRS estimates of the amount of fuel burned by IFR aircraft arriving and departing from the Study Airports in the GSA".⁷ However, the greenhouse gas (GHG) emissions does not provide sufficient information to assess if the evaluation properly estimates the GHG emissions. The Federal Aviation Administration outlines the Air Quality (and GHG) assessment process in the Aviation Emissions and Air Quality Handbook (Air Quality Handbook).⁸ Notably, in Section 6.3 of the Air Quality Handbook, it suggests that:
- a. "GHG emissions should be based on fuel burn, energy usage and/or activity levels developed from FAA-approved tools."
 - b. "For an air traffic action, the CO₂e should be computed based on the fuel content and the assessment boundary shall be the same as the study area."

Based on the Air Quality Handbook, we have the following comments regarding the Climate analysis in the EA:

- a. The GHG emission estimates appear to be based on outdated models. The general study area as outlined in Exhibit 4-1 of the EA includes the entirety of Orange County, and portions of eight additional counties.⁹ The EA appears to rely upon fuel burn data as produced by the Noise Integrated Routing System (NIRS) model to estimate GHG emissions from aircraft, as explained in Section 4.3.1.1 of the EA. Note that the NIRS model is used to evaluate flight track changes at altitudes over 3,000 feet AGL.¹⁰ If there are flight path changes below 3,000 feet, the NIRS model would not have identified the fuel burn data below 3,000 feet. In addition, NIRS was superseded by AEDT in March 2012 as the FAA-recommended model for analysis of air traffic airspace and procedure actions.¹¹ And it is noteworthy that the NIRS tool is no longer available. We believe the EA should include an updated analysis using AEDT, which is the currently approved and available tool for such analyses.
- b. The EA's GHG emission estimates are not adequately documented and inconsistent information is presented in the EA. According to Section 4.3.7 of the EA (Energy Supply [Aircraft Fuel]), the Proposed Action may result in a burn of 289,341 gallons of

⁷ USDOT FAA. SoCal Metroplex EA. Chapter 4 – Affected Environment. Table 4-7. Available online: http://www.metroplexenvironmental.com/docs/socal_metroplex/SoCal_Metroplex_DEA_Ch4_Affected_Environment.pdf. Accessed: July 2015.

⁸ Federal Aviation Administration. Aviation Emissions and Air Quality Handbook. Version 3 Update 1. January 2015. Available online: https://www.faa.gov/regulations_policies/policy_guidance/envir_policy/airquality_handbook/. Accessed: July 2015.

⁹ USDOT, FAA. Draft SoCal Metroplex EA. Chapter 4 – Affected Environment. Available online: http://www.metroplexenvironmental.com/docs/socal_metroplex/SoCal_Metroplex_DEA_Ch4_Affected_Environment.pdf. Accessed: July 2015.

¹⁰ USDOT FAA. SoCal Metroplex EA. June 2015. Chapter 4. Affected Environment. Available online: http://www.metroplexenvironmental.com/socal_metroplex/socal_docs.html. Accessed July 2015.

¹¹ FAA. Noise Integrated Routing System (NIRS) and NIRS Screening Tool (NST). Available online: https://www.faa.gov/about/office_org/headquarters_offices/apl/research/models/nirs_nst/. Accessed: July 2015.

fuel per day within the study area.¹² The EPA-approved GHG emission factor for jet fuel is 9.75 kg CO₂/gallon¹³, which would result in a total Project GHG emissions from jet fuel burn of 1,029,700 MT CO₂ per year. However, the total CO₂ emissions listed for the Proposed Action are 7,909 MT of CO₂e for 2015, which appear to be based on the Fuel Burn (MT) output from the NIRS modeling as listed in Table 5-5 of the EA.¹⁴ The EA does not adequately explain the boundary area used to estimate the Fuel Burn for the Proposed Action to understand the reported emissions. Furthermore, Section 5.9.3 of the EA states a total of 26 MT CO₂e increase in CO₂ emissions from the Proposed Action vs. the No Action Alternative (also based on Fuel Burn in Table 5-5, for 2015). However, there is not enough detail to evaluate and assess if this difference between the Proposed Action and No Action Alternative is appropriate for the general study area. We believe that the EA should include additional explanation to support the fuel burn inputs and GHG emission results as presented in Sections 4.3.9 and 5.9.

- c. The EA's comparison of the GHG emissions should more thoroughly discuss the context of the GHG emissions from the Proposed Action in the context of Global Climate Change. The analysis in Section 5.9 compares the estimated GHG emissions to nationwide and global greenhouse gas emissions without any additional discussion to understand the meaning of these comparisons. Recently, in June 2015, the USEPA issued a proposed finding that GHG emissions from certain classes of aircraft engines contribute to the air pollution that causes climate change.^{15, 16} We believe that the EA should include greater discussion and analysis regarding the increase in GHG emissions in the context of how the estimated GHG emissions may contribute cumulatively to Global Climate Change.

¹² USDOT FAA. SoCal Metroplex EA. Chapter 4 – Affected Environment. Available online: http://www.metroplexenvironmental.com/docs/socal_metroplex/SoCal_Metroplex_DEA_Ch4_Affected_Environment.pdf. Accessed: July 2015.

¹³ USEPA. Emission Factors for Greenhouse Gas Inventories. April 4, 2014. Available online: <http://www.epa.gov/climateleadership/documents/emission-factors.pdf>. Accessed: July 2015.

¹⁴ USDOT FAA. SoCal Metroplex EA. Chapter 5 – Environmental Consequences. Available online: http://www.metroplexenvironmental.com/docs/socal_metroplex/SoCal_Metroplex_DEA_Ch5_Environmental_Consequences.pdf. Accessed: July 2015.

¹⁵ USEPA. Nonroad Engines, Equipment, and Vehicles. Aircraft. "EPA Takes First Steps to Address Greenhouse Gas Emissions from Aircraft." July 1, 2015. Available online: <http://www.epa.gov/oms/aviation.htm>.

¹⁶ USEPA. Federal Register Volume 80, Number 126. July 1, 2015. Part II: 40 CFR Parts 87 and 1068. Available online: <http://www.gpo.gov/fdsys/pkg/FR-2015-07-01/pdf/2015-15192.pdf>.

4. **The EA does not include air toxics emissions or discussion of potential impacts on human health in the Environmental Justice or Air Quality chapters.** Neither the Air Quality nor Environmental Justice sections include a discussion of the potential health impacts of the Proposed Action. While the Air Quality Handbook does not require health risk analyses, the Air Quality Handbook does recommend disclosure of hazardous air pollutant (HAP) emissions.¹⁷ In addition, criteria pollutants such as PM₁₀ and PM_{2.5} also may contribute to impacts on human health because of their ability to penetrate into the human respiratory system. Per the Air Quality Handbook Section 6.2.2, "in response to this need for more information [on HAPs], in 2009 the EPA and the FAA developed organic gas (OG) speciation profiles and best practices for use in HAPs emission inventories of aircraft equipped with turbofan, turbojet, and turboprop engines fueled with kerosene-based jet-A fuel. The development of these profiles and guidance was the combined work of both agencies, taking into account the most recent data and information available."¹⁸ The Air Quality Handbook also states that an EA should consider including a HAP emissions inventory; this guideline follows the Guidance for Quantifying Speciated Organic Gas Emissions from Airport Sources.¹⁹ Assuming that there are flight path changes below 3,000 feet, we believe that the EA should include greater discussion regarding the potential increase in HAPs, given that the EA has indicated there will be an increase in air quality emissions.

5. **The improved efficiency of the flight paths could enable an increase in flights.** While the EA indicates that the Proposed Action will not involve any increases in the number of flights, it seems logical to assume that the improved efficiency achieved as described as the intent of the Proposed Action would be expected to relax or eliminate a bottleneck that might otherwise limit the potential for increasing the number of flights. Therefore, while increases in number of flights may not be a component of the Proposed Action, it should be considered a reasonably foreseeable consequence of the Proposed Action. Thus, we believe that the EA should, at a minimum, discuss the potential benefit of the Proposed Action to allow for increased flights due to the improved efficiency of the flight paths.

6. **The Draft EA does not fully address the concerns outlined in the City of Newport Beach's letter on February 13, 2014.** The City of Newport Beach specifically requested the FAA provide emissions estimates for construction and maintenance activities to assure compliance with State and Federal regulations. The evaluation provided in the Draft EA does not include any estimate of emissions that would assure the City of compliance with applicable regulations. Further, the City expressed the need for a robust range of

¹⁷ Federal Aviation Administration. Aviation Emissions and Air Quality Handbook. Version 3 Update 1. January 2015. Available online: https://www.faa.gov/regulations_policies/policy_guidance/envir_policy/airquality_handbook/. Accessed: July 2015.

¹⁸ Federal Aviation Administration. Aviation Emissions and Air Quality Handbook. Version 3 Update 1. January 2015. Available online: https://www.faa.gov/regulations_policies/policy_guidance/envir_policy/airquality_handbook/. Accessed: July 2015.

¹⁹ Federal Aviation Administration. Office of Environment and Energy. Guidance for Quantifying Speciated Organic Gas Emissions from Airport Sources. Ver. 1. September 2, 2009. Available online: https://www.faa.gov/regulations_policies/policy_guidance/envir_policy/media/Guidance%20for%20Quantifying%20Speciated%20Organic%20Gas%20Emissions%20from%20Airport%20Sources.pdf.

alternatives; however, only the Proposed Action and No Action alternative were evaluated. The Draft EA does not consider any other potential modifications or combination of modifications that could minimize or avoid impacts. The final document should be revised to address these issues.

Sincerely,



Eric C. Lu, MS, PE
Principal

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cc: Megan Schwartz, Ramboll Environ
Megan Neiderhiser, Ramboll Environ

ERIC C. LU, MS, PE

Principal

Eric Lu has 15 years of experience in air quality management and climate change issues with primary expertise in air permitting, air dispersion modeling, risk assessment, litigation support, greenhouse gas (GHG) emissions inventory and reporting. His clients span a broad range of industries including, but not limited to, airports, oil and gas, manufacturing, landfills, commercial and residential land use development and renewable energy. He is experienced in managing multi-disciplinary teams to address a broad range of environmental, health and safety issues, and with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). Mr. Lu received his MS in chemical engineering from the University of California at Berkeley and his BS in chemical engineering from Brown University. He is a Registered Professional Engineer in California, a

Certified Permitting Professional in the South Coast Air Quality Management District, and an accredited GHG Lead Verifier for the State of California.

EDUCATION

MS, Chemical Engineering
University of California, Berkeley

BS, Chemical Engineering
Brown University (Honors)

COURSES/CERTIFICATIONS

Registered Professional Engineer (CH6248, California)
Certified Permitting Professional (M6053, South Coast Air Quality Management District)
Accredited Greenhouse Gas Lead Verifier with sector specialty Oil & Gas and Process Emissions (ARB Executive Order H-09-037)

EXPERTISE

Emissions Estimations
Chemical Process Analysis
Regulatory Compliance
Air Dispersion Modeling
Indoor Air Quality Analysis
Ambient Air Monitoring
Litigation Support
California Environmental Quality Act (CEQA)

EXPERIENCE HIGHLIGHTS

- Knowledgeable of airport operations from effort to prepare and evaluate airport air quality and GHG emissions inventories for John Wayne Airport as required for CEQA. Included the preparation of air quality and GHG technical reports that covered transportation,



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airport (i.e., GSE, landside, stationary sources), and aircraft. Used the FAA EDMS model and California EMFAC and OFFROAD models to prepare the emission inventories. Used AERMOD to perform dispersion modeling and prepared a Health Risk Assessment. Assisted with strategic evaluations in the CEQA process and for emission reduction opportunities.

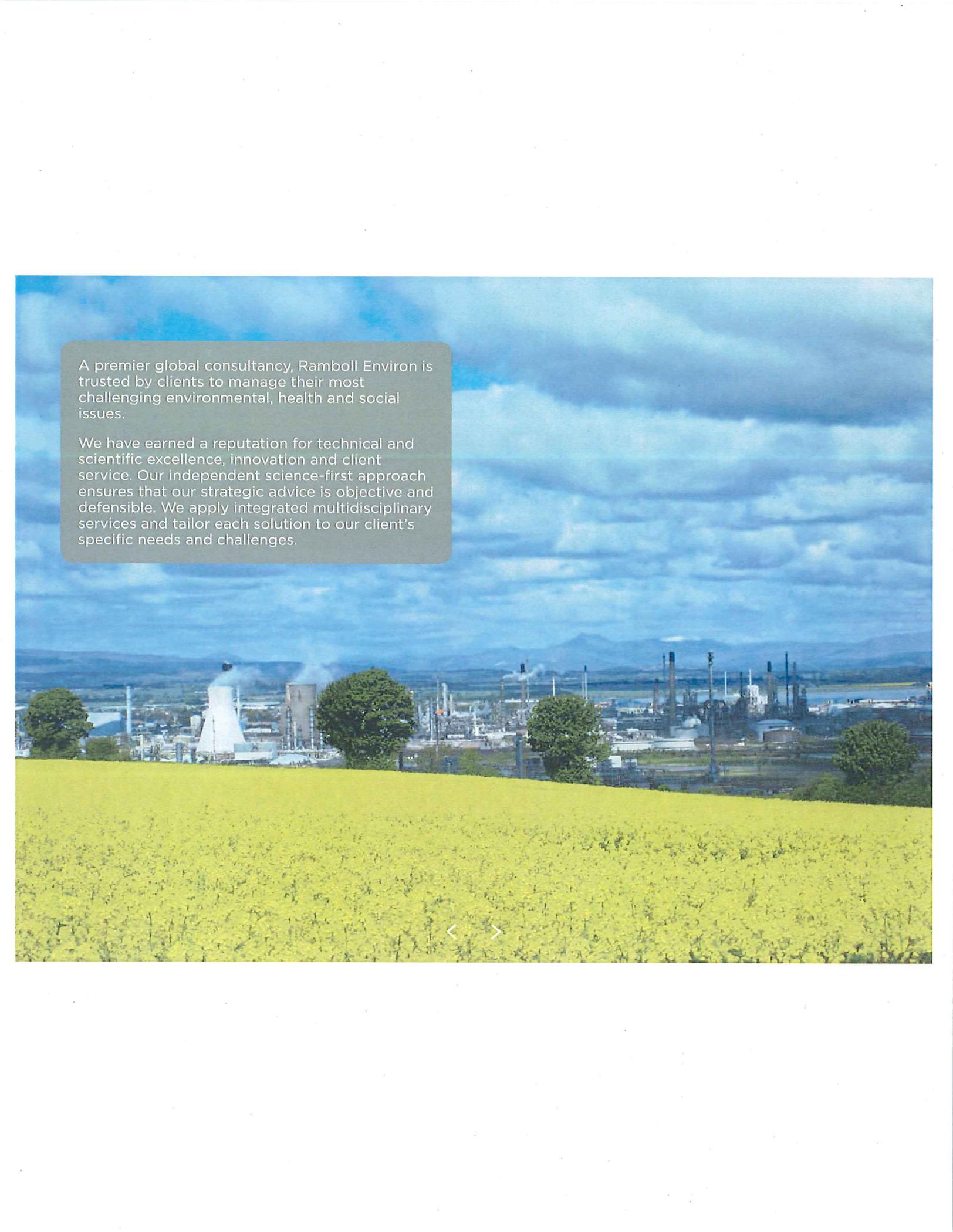
- Evaluated air quality and climate change impacts including the preparation of complex air emissions inventories (criteria pollutant, toxics, GHGs), air dispersion models and health risk assessments in support of California Environmental Quality Act (CEQA) requirements. Projects have included mixed-use developments, landfills, oil and gas production facilities, commercial developments, and airports. This has included evaluation of construction and operational conditions.
- Managed and participated in large litigation support teams to complete complex technical analysis including source testing, emissions estimation, health risk assessment, meteorological data evaluation and air dispersion modeling. Provided litigation support in regards to toxic court cases involving oil and gas production facilities, hydrogen sulfide emissions in a city-wide area, mining facilities, paint burn-off ovens, RECLAIM requirements, indoor air quality and cooling tower emissions.
- Managed a multidisciplinary team for a site assessment and project development for a renewable energy development in support of the preparation of an EIR/EIS. The project required analysis of biological, cultural, stormwater/water quality, noise, traffic, hydrogeology, geology and soils, hazards and hazardous materials, air quality and climate change site assessment and permitting issues.
- Participated on the Passenger Transportation white paper working group for the development of the South Coast Air Quality Management Plan. Also provided technical oversight to ensure appropriate characterization of airport emissions and potential control measures and provided strategic assistance on working with the responsible agencies (AQMD, SCAG, CARB, and FAA).
- Designed and implemented ambient air monitors for inorganics and organic compounds. The monitoring was in support of various applications including perimeter monitoring during remediation, operational impact evaluation, air permit compliance requirements, as well as for litigation support.
- Assisted clients in maintaining local air permit requirements. This included the gathering of required facility information, analysis of local air rules and regulations, negotiation with the local air quality management district, ISC modeling and completion of required permit application forms and supporting materials.

An aerial photograph of a dense urban skyline, likely Hong Kong, featuring numerous high-rise buildings. In the foreground, a lush green hillside is visible, contrasting with the concrete city. The sky is blue with scattered white clouds.

SUPPORTING A SUSTAINABLE SOCIETY

Environment & Health

RAMBOLL ENVIRON



A premier global consultancy, Ramboll Environ is trusted by clients to manage their most challenging environmental, health and social issues.

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Managing change

Advances in science and technology and evolving regulatory, legal and social pressures create increasingly complex challenges for our clients. We evolve to keep pace with these changes – by adding new services, contributing to scientific advances or expanding geographically.

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Global Reach - Local Expertise

A top 10 global environmental consultancy, Ramboll Environ has 2,100 employees across 128 offices in 26 countries.

Services

AIR QUALITY

ECOLOGICAL SERVICES

HEALTH SCIENCES

- Applied Epidemiology
- Exposure Reconstruction
- Health Impact Assessment
- Occupational Health and Safety
- Product Safety and Stewardship
- Toxicological Sciences

IMPACT ASSESSMENT (EIA/ESIA)

LABORATORY SERVICES

RESOURCE AND WASTE MANAGEMENT

RISK MANAGEMENT, COMPLIANCE AND STRATEGY

- Building Performance and Property Loss
- Due Diligence/M&A
- EHS Information Management
- EHS Management
- Expert Services
- Product Safety and Stewardship
- Sustainability
- WEEE, RoHS & EcoDesign

SITE SOLUTIONS



SOLUTIONS DELIVERED

We continually strive to be at the forefront of our fields: delivering innovative, inspiring and sustainable solutions that set new standards and make a genuine difference to our clients, the environment and society as a whole.

SCIENCE BENEFITS HOMES

Our scientists discovered the gases and chemical reactions causing odors and corrosive effects on copper and silver from Chinese drywall used in residential buildings, enabling the gases to be eliminated and repairs to be made to thousands of homes.

RECONSTRUCTING WORKPLACE EXPOSURES

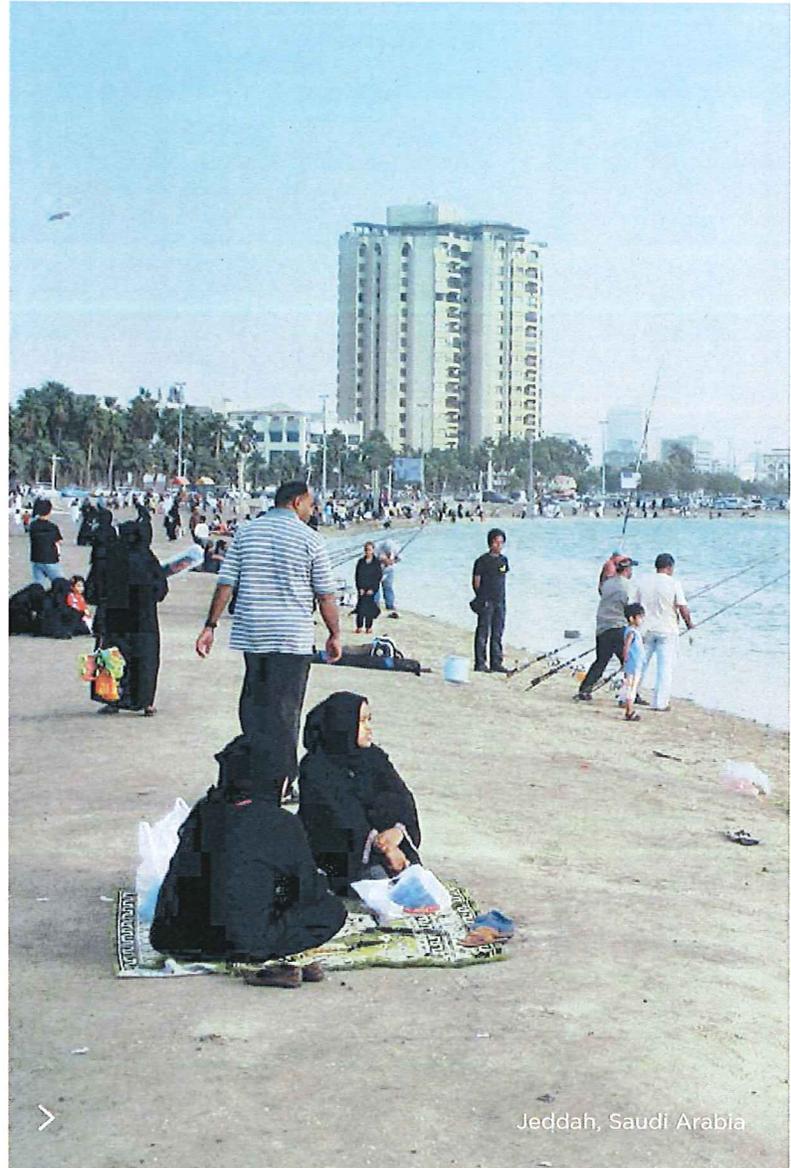
For a global electronics industry client, we completed a rigorous, quantitative exposure reconstruction for workers who had developed certain diseases during their employment at several semiconductor facilities in Asia. Our exposure reconstruction confirmed findings by the occupational agencies that the diseases were unrelated to exposures at the client's facilities.

IMPROVING LIVEABILITY IN JEDDAH

We are developing an environment and social master plan to accommodate rapid urbanization in Jeddah. Our report provides a baseline of current air, water and waste conditions, and proposals for corrective actions to improve living conditions.

AWARD-WINNING EIA

Our EIA prepared for the proposed expansion of the Kemira Chemicals plant in Sastamala received an honorary award from the Finnish National EIA Association for exceptionally good assessment of risks and the potential environmental impacts of disturbances and emergency situations.



Jeddah, Saudi Arabia

SOLUTIONS DELIVERED

HONG KONG AIR QUALITY

In response to rapid urbanization and explosive economic growth in the Pearl River Delta region, the Hong Kong Environmental Protection Department (EPD) retained us to upgrade an air quality modeling system that allows EPD to study the complex relationships among factors that influence Hong Kong air quality.

THIRD-EVER REACH AUTHORIZATION

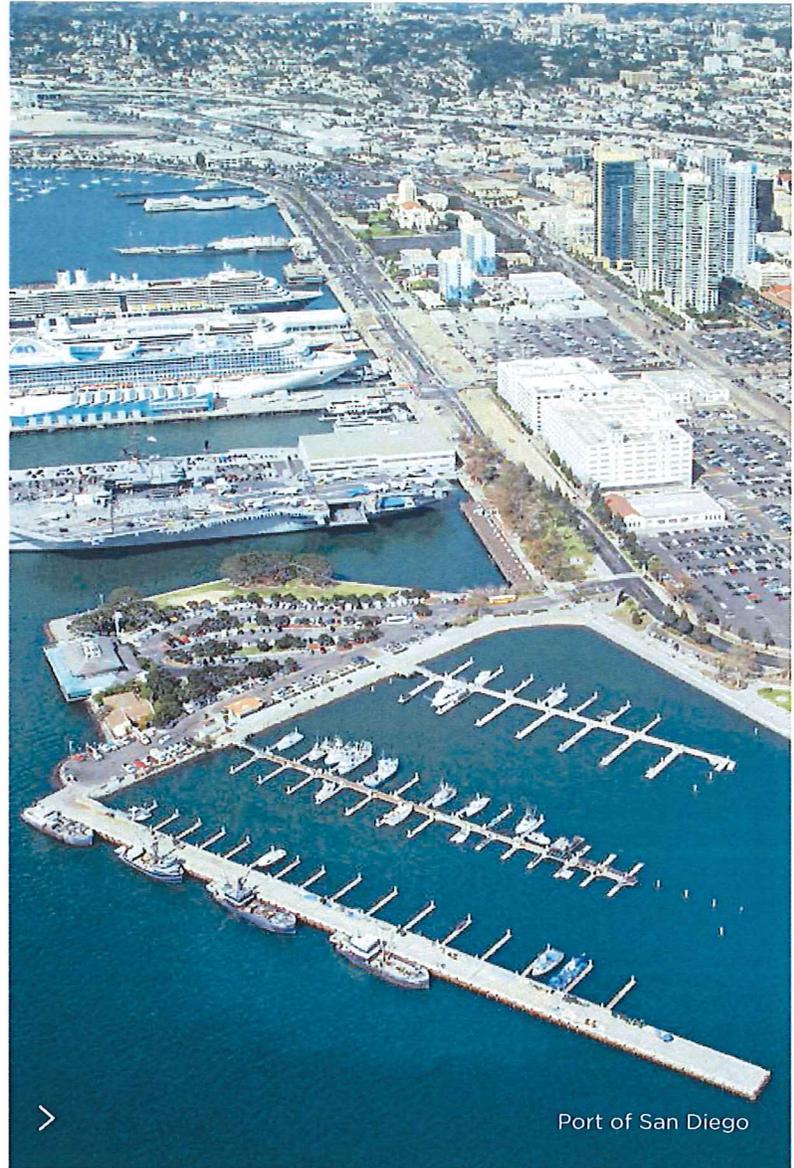
Roxel was granted the third-ever authorization under REACH in the EU for use of the phthalates DEHP and DBP for formulation and use of rocket propellant, based on our demonstrating safe use, preparing alternatives assessments and conducting a socioeconomic evaluation of continued use.

ADAPTING TO CLIMATE CHANGE

We have worked with California's Port of San Diego to create and implement a climate action plan that will reduce greenhouse gas emissions across half a dozen targeted areas, and to develop climate change adaptation studies that address local vulnerabilities to climate change.

DELIVERING GAS TO EUROPE

Our early stage environmental planning and input to the construction design enabled the world's largest gas pipeline to be built without significant environmental impact. The Nord Stream pipeline transports up to 55 billion m³ of gas per year from Russia to Germany through the Baltic Sea.





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