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November 24, 2014

Via electronic mail and first class mail

ATTN: TFT EA COMMENT SUBMITTAL,
355th Fighter Wing Public Affairs
3405 S Fifth Street,
Davis-Monthan AFB, Arizona 85707.

Re: Environmental Assessment for the Update and Implementation of the Total Force Training Mission for Visiting Units (Operation Snowbird, Multi-Service, and Foreign Military Sales) Davis-Monthan Air Force Base, Arizona

To Whom it May Concern:

This letter represents the response to the solicitation of comments on the draft Environmental Assessment for the Update and Implementation of the Total Force Training (“TFT”) Mission for Visiting Units (Operation Snowbird, Multi-Service, and Foreign Military Sales) Davis-Monthan Air Force Base, Arizona (“Revised EA”) from Americans for Livable Communities (“ALC”) and the Arizona Center for Law in the Public Interest (“Center”).

ALC is an alliance of concerned citizens whose mission is to protect and enhance the livability, safety, property values, and economic viability of our communities. The communities we represent include homeowners who live and work in the flight pattern from Davis-Monthan Air Force base and would be affected in a number of ways if the proposed expansion of the TFT program is implemented. Several of the current members of ALC have also been active in Tucson Forward, a non-profit organization that was formed several years ago to protect Tucson and its neighborhoods from health damaging noise and safety concerns related to overflights from Davis-Monthan.

The Center is a nonprofit law firm dedicated to ensuring government accountability and protecting the legal rights of Arizonans. It frequently works with community groups that are concerned about the environmental impacts of proposed government projects or actions, and assists them in navigating the NEPA process.

In reviewing the Revised EA, it is important to consider it in context. Operation Snowbird (“OSB”) began in 1975 as a way to train Air National Guard pilots based in northern states during the winter months. Over the years, the program evolved into year-round training; however, the last

NEPA analysis of the program was performed in 1978, before it expanded its schedule. Thus the environmental impacts of extending the program year round were never evaluated before the change was made. Nor were other significant changes to the program, such as the number and type of aircraft flown by participants, evaluated prior to their implementation. Consequently, in 2010, in response to questions raised by members of the public regarding the lack of the required NEPA analysis, the Air Force initiated an updated NEPA analysis. In July 2012, the Air Force released for public comment its Draft Environmental Assessment for the Proposed Update and Implementation of the National Guard Bureau Training Plan 60-1 in Support of Operation Snowbird Davis-Monthan Air Force Base, Arizona (“original EA”). The public comment period for the original EA closed in October 2012. The Center, along with a citizen-based organization, Tucson Forward, submitted extensive comments on the original EA (“Comment Letter I”). In their capacity as members of Tucson Forward, several members of ALC contributed to or were otherwise involved in the drafting of Comment Letter I. After the close of the comment period, the Air Force announced that it was revising the EA, purportedly to respond to the concerns expressed during the public comment period.¹ It took the Air Force nearly two years to revise the EA.

Unfortunately, after reviewing the Revised EA both the Center and ALC have concluded that the EA continues to be incomplete and inadequate and fails, utterly, to support the Finding of No Significant Impact (“FONSI”). For the reasons set forth below, we urge the Air Force to rescind the FONSI and prepare a full Environmental Impact Statement, as the law requires, or, at minimum a revised EA.

I. Introduction/General Overview of Law:

The National Environmental Policy Act (“NEPA”) has “‘twin aims. First, it places upon [a federal] agency the obligation to consider every significant aspect of the environmental impact of a proposed action. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process.’” *Kern Bureau of Land Mgmt.*, 284 F.3d 1062, 1066 (9th Cir. 2002)(quoting *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983)). NEPA is not substantive. It does not require that agencies adopt the most environmentally friendly course of action. *Kern*, 284 F.3d at 1066. Rather, “[t]he sweeping policy goals . . . of NEPA are . . . realized through a set of ‘action-forcing’ procedures that require that agencies take a ‘hard look at environmental consequences.’” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989)(quoting *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.20 (1976)).

In this case, the Air Force has failed to meet either goal. As discussed more fully below, the environmental analysis undertaken by the Air Force in the Revised EA grossly understates the impacts of the proposed action by, according to the Department of Defense’s own policies, failing to fully and fairly evaluate the noise impacts on the quality of life and health of Tucson citizens who live within the flight path used by TFT. Second, instead of informing the public that the Air Force has, indeed, considered the environmental impact of its decision making, the Revised EA only confirms that the

¹ To the extent that issues we raised in Comment Letter I have not been addressed in the revised EA, we incorporate by reference the previous comment letter. Because it is already a part of the administrative record, we have not included a copy of the letter here.

agency has instead sought to mislead the public about how extensive the impacts may, in fact, be. NEPA requires more—substantially more.

II. The Discussion of Noise Impacts on the Affected Community Remains Inadequate Because it is Fundamentally Incomplete in Several Important Ways.

Agencies are obligated under NEPA to insure the professional integrity, including scientific integrity, of the discussions and analyses in their documentation. 40 C.F.R. §1502.24. The Air Force has fallen short of this requirement in several respects in regards to the important issue of noise impacts.

1. The assumptions underlying the day-night average sound level (DNL) have a very high likelihood of changing, thus significantly affecting the DNL projections and potentially changing the EA's analysis and the conclusions of the draft finding of no significant impact.

The draft noise analysis report is the basis for the EA's DNL contours and all other results of noise analysis. Sec. 2.1 of Appendix C lists five stages of noise analysis for this EA. To date, the first three stages are complete, and part of stage 4 is complete. Stage 5 has not begun. The Draft EA was released before the noise analysis was complete.

Further, according to Sec. 2.1, 2.2, and Table 2-1 of Appendix C, the report is based on seven assumptions. Now that the Draft EA has been released, DMAFB and ACC will review the seven assumptions. The review may change some or all of them. If any assumption changes, the noise analysis report will change which, in turn, could affect the EA, potentially in important ways. Table 2-1 of Appendix C assesses the likelihood that each assumption will change after DMAFB and ACC review it. In addition, the table assesses the impact that an altered assumption will have on the report and hence, on the EA. For example, the likelihood that Assumption 1 will change is high. And if Assumption 1 changes, its impact on the report and importantly, on the analysis in the EA, will be high.

The discussion in this section about these assumptions notes that they were made to enable noise modeling within the agreed-upon timelines. In fact, this analysis is already many years' late. The Air Force should complete the final report and revise the underlying analysis in the EA and recirculate it to the public for review and comment as either a supplement to the EA or as part of a draft EIS.

2. The DNL projections are not supplemented with other metrics, per applicable DOD guidance.

The Revised EA uses only one method to analyze the impacts of annoyance to the community from noise: DNL. The EA justifies this on its page 3-4: "DNL is the community noise metric recommended by the USEPA and has been adopted by most Federal agencies (USEPA 1974)." This USEPA recommendation is forty years old, and while we understand that DNL analysis is still commonly used, acoustics experts, most importantly within the Department of Defense, have recognized during the past four decades that DNL analysis tells only part of the story. For environments affected by short-duration, high-SEL events such as aircraft noise, DNL analysis fails to

describe the most serious impacts. The only use of any other metric found in the EA is in Table 3-1 which presents “Representative SEL for Typical Aircraft under Flight Track at Various Altitudes,” but this is in the affected environment section and SEL analysis is never presented in the impacts analysis.

In a 2009 publication, DOD forthrightly recognized the shortcomings of correlating DNL and the FICON Curve (updated from the Shultz Curve) for predicting community annoyance. *Community Annoyance Caused by Noise From Military Aircraft Operations* (Department of Defense, December, 2009) (available at <http://www.denix.osd.mil/dnwg/upload/Master-ANNOYANCE-12-09.pdf>), Issues identified regarding DNL and the FICON Curve include “methodological questions, errors in measurement of both noise exposure and reported annoyance, data interpretation differences, and the problem of community response bias . . . [and] an extraordinary amount of scatter in the data.” *Id.* at 5.

In recognition of the limitations of DNL and the FICON Curve as a useful methodology for prediction, DOD published a guide to using supplemental metrics, “to guide the Military Services in providing more useful information on the noise environment than is available through solely using the long-term cumulative metrics such as DNL.” *Improving Aviation Noise Planning, Analysis and Public Communication with Supplemental Metrics* (December, 2009) at 1-1.(emphasis added)(hereinafter “*Supplemental Metrics*”)(available at http://www.denix.osd.mil/dnwg/upload/DNWG_Supplemental-Metrics-Report_December-2009.pdf).

As stated in *Supplemental Metrics*:

When using DNL to communicate noise exposure to the average citizen residing near a military airfield, a typical response is, “I don’t hear averages, I hear individual airplanes.” Airport neighbors often become angry and frustrated trying to understand explanations of noise exposure solely in terms of average sound energy with the DNL metric, particularly when they are trying to grasp the impact of . . . increased operations and aircraft changes.

Id. at 2-1. While the guide is clear that DOD is not replacing DNL, it provides considerable rationale for supplementing DNL with several other methodological approaches that are intended to provide more useful information on the noise environment than is available through solely using the long-term, cumulative metrics such as DNL. Importantly, the need for supplemental noise metrics is characterized as being two-fold: “(1) to produce more detailed noise exposure information for the decision process; and (2) to improve communication with the public about noise exposure from military activities.” *Id.* at 1-1. DOD’s articulation of need for supplemental metrics mirrors perfectly the purposes of the NEPA process.

Along with *Supplemental Metrics*, DOD also published a Technical Bulletin on *Using Supplemental Noise Metrics and Analysis Tools* (December, 2009)(available at <http://www.denix.osd.mil/dnwg/upload/Master-Using-Supplemental-Metrics-12-09.pdf>). The [Bulletin](#) provides detailed guidelines for the analysis and presentation of

- Maximum A-Weighted Sound Levels (Lmax)
- Sound Exposure Level (SEL)

- Equivalent Sound Level
- Time Above a Specified Sound Level (TA)
- Number-of-Events Above a Specified Sound Level (NA)

Id. at 7; *See also Supplemental Metrics* at 5-4 through 5-7. Guidelines on how to use these supplemental metrics are published in Table 6-1. *Supplemental Metrics.* at 6-3. While DNL is still characterized as the best metric for long-term annoyance, DOD warns that, “**it is inadvisable to use the average annoyance curve [Schultz/FICON] to predict the specific number or percentage of the local exposed population who are expected to be highly annoyed by aircraft operations at a given DNL.**” *Id.* (emphasis in original). The Revised EA does contain what it characterizes as “representative SEL” for some aircraft to be used at DM, EA at 3-5, but this generic listing of SEL levels is hardly an analysis of SEL impacts of the TFT aircraft, and even omits many of the planes expected to be flying under the auspices of the TFT.

As DOD explains in *Supplemental Metrics*:

While the Federal agencies have accepted DNL as the best metric for land use compatibility guidelines, reducing the description of noise exposure to a single value of DNL may not help the public understand noise exposure. Simply looking at the location of their home on a DNL contour map does not answer the important questions: how many times airplanes fly over, what time of day, what type of airplanes, or how these flights may interfere with activities, such as sleep and watching television. The number and intensity of the individual noise events that make up DNL are critically important to public understanding of the effects of noise around airports. What is needed is a better way to communicate noise exposure in terms that are more easily understood. Supplementing DNL with additional metrics will help the public better understand noise exposure.

Supplemental Metrics at p. 2-1.

In *Supplemental Metrics* the DOD recommends that results of the above metrics be presented in tables and/or as contour lines on maps (just as the TFT EA presents DNL contour lines) *Id.* at 5-10. The publication includes several real-life examples of both. The contour maps are particularly striking. At a glance, they provide very important information that is totally absent from DNL metrics. For example, at Marine Corps Air Station Cherry Point in North Carolina, the contour line for NA above 90 dB SEL extends eight and a half miles beyond the DNL 65 dB contour line. *See Id.*, Figure B-6 at p. B-16. This is crucial information. As *Supplemental Metrics* explains, the above metrics “are as important to the project stakeholders as they are to communicating with the general public, because they enable the project managers and decision makers to make better-informed decisions.” *Id.* at 5-1.

Further, in relationship to the ongoing program at DM, residents have noted ongoing incidents in which aircraft from DM are flying outside of the flight paths presented in the EA. Indeed, Air Force representatives have stated that the pilots are allowed to fly anywhere in the Tucson. For

example, in a response to a citizen's complaint about the noise from overhead aircraft, DM Public Affairs Officer, Sarah R. Ruckriegle, 1st Lt. wrote:

Our pilots operate in dynamic airspace with a myriad of constantly changing factors that will affect their actual ground track. While they follow patterns that are reflected in graphics, which have been provided to the public by the base, there are no airspace restrictions, regulations, agreements or other mandates that restrict our pilots to specific ground tracks or street intersections. The graphics we have provided are intended to be tools to help residents and other interested parties become familiar with our most common traffic flow and the approximate vicinities where they will most commonly see our aircraft.

Letter dated July 29, 2013, attached as Exhibit 1.

Because the impacts to area residents and businesses are not fully represented by the DNL metric, and the affected area is potentially greater than the DNL contour identified in the Revised EA, at least some of these supplemental metrics should not only be considered but should be calculated and analyzed with NOISEMAP. Because the TFT EA uses NOISEMAP for its DNL metric, the inputs for these additional metrics may already be complete. Speech interference and classroom speech interference would seem particularly relevant. This analysis needs to be provided for public review and comment in a revised EA or draft EIS.

It is worth noting that failure to include these metrics can lead to litigation. *Supplemental Metrics* describes one successful lawsuit:

The City of Oakland CA prepared the required Environmental Impact Report (EIR) to analyze the consequences of their proposed Airport Development Plan for the Metropolitan Oakland International Airport. Its adequacy in defining nighttime noise impacts solely with the DNL noise metric was challenged in court by a citizens group and in its decision, the California appeals court set a precedent (at least in California) that DNL 65 dB is not a sufficient criteria to use in Environmental Impact Reports for this purpose and that single event noise levels must also be considered.

Supplemental Metrics at C-12. To avoid a similar challenge here, the Air Force should consider which recommended metrics in *Supplemental Metrics* are most appropriate for the proposed TFT program, utilize them, and present the results in a revised EA or draft EIS.

3. The EA uses the original Schultz Curve instead of the updated version recommended by DOD.

For some unexplained reason, the Air Force chose to use the original Schultz curve in its analysis of public annoyance from noise exposure (Figure 3-1). As stated in *Supplemental Metrics*, the original 1978 Schultz curve has been updated, and the updated fit "is the current preferred form in the U.S." *Id.* at 3-3 and 3-5. While the differences between the original and updated version are characterized as not being "substantial," there are some differences and there is no explanation offered as to why the version currently accepted by both DOD and the Federal Interagency Committee on

Noise as being the preferred model was not utilized. Further, that the state of modeling annoyance curves has advanced beyond either the original or Shultz/FICON curve. Importantly, the Schultz curve has been substantially revised to differentiate among annoyance responses from different noise sources. Technical information regarding the update is provided in a separate comment letter from Mr. Gary A. Hunter, a professional civil engineer, dated November 24, 2014 and incorporated by reference.

In short, the use of a 34 year-old model to characterize annoyance to the community meets neither the standard necessary for professional integrity under NEPA nor the standards necessary to meet the Information Quality Act, Pub. L. 106-554, or the Department of Defense's guidelines under that Act:

Components should not disseminate substantive information that does not meet a basic level of quality. An additional level of quality is warranted in those situations in involving influential scientific, financial, or statistical information. This additional level of quality for influential scientific, financial, or statistical analytical results requires that such information be "capable of being substantially reproduced.

Department of Defense Information Quality Guidelines, revised, 2007. The analysis should be revised using the most current, credible models available and presented for public review and comment in a revised EA or draft EIS.

4. The EA fails to explain the omission of the Advanced Acoustic Model in the applicable NOISEMAP application.

The Aircraft Noise Analysis proffered to support the TFT EA explains that the NOISEMAP suite of noise models includes three modules and states that only two of the modules were used for this analysis, (Appendix C, Noise Analysis, pp. 11-12). The Advanced Acoustic Model was omitted. There is no explanation of why this is the case, leaving the reader to guess at whether this third component has relevance to the TFT program at DM. A revised EA or draft EIS should explain this omission.

5. NOISEMAP's reliability in terms of actual impacts is not assessed.

Finally, the EA presents no information regarding NOISEMAP's actual reliability in terms of on-the-ground impacts. To our knowledge, no testing vis-a-vis actual operational data has taken place to compare actual impacts with NOISEMAP predictions. If such testing has taken place, whether at DM or elsewhere, the Air Force should include that information in a revised EA or a draft EIS.

6. Increased noise impacts to residences in areas exposed to a DNL of between 70 and 74 DB are not discussed.

The Revised EA neglects to analyze the increased noise impacts to the residents most affected by these flights. While the EA states that, "[a]reas exposed to a DNL above 65 dBA are generally not considered suitable for residential use," the contours show flights over residential areas in this zone.

(EA at 3-4, Figure 3-2). Yet the EA offers no analysis about the impact of the increase of flights over these residences. This is another example of where the supplemental metrics are critical to accurately evaluate the full impact. Even if there is no change in DNL metrics, an increase in NA metrics would have a tremendous adverse impact on quality of life that is already compromised. The “hard look” required by NEPA includes just this type of analysis.

The revised EA also still fails to identify appropriate mitigation measures as noted in Comment Letter I. The 70 dB zone is an area which particularly commands attention in terms of mitigation. The Air Force has totally failed to identify and analyze mitigation measures. While adoption of mitigation measures is not a requirement of the law, identification and analysis of such measures is part of the required analysis.

III. The Public Process for the Revised EA was Inadequate

The Air Force’s process for public involvement in the Revised EA has been flawed from two perspectives. First, as discussed in detail in the section on noise impacts above and in several sections below, critical analysis has either not been completed or has not been shared with the public. This lack of disclosure inhibits a competent critique of the analysis underlying the Air Force’s conclusion regarding the type of impacts which is of the widest concern to the public. We pointed this out in Comment Letter I, stating that, “the public has, as of this date, been unable to obtain the complete noise analysis upon which this EA is based. The Noise Data Collection Review and Validation Study (ACC 2007) referenced in the draft EA . . . as the ‘2007 Noise Study’ is only a collection of aircraft operations data needed to input a noise prediction model. Missing are the resulting NOISEMAP profiles. It is not possible to comprehensively and accurately comment on the noise analysis when documents cited in the draft EA are mislabeled and incomplete and not available on a timely basis to the public.” Comment Letter I at 19.

The same type of omissions are associated with the Revised EA and present a formidable barrier to competent assessment on the part of the public and outside experts. Further, no explanation is given as to the omission of the availability of documentation or the failure to finalize the draft noise analysis report prior to the release of the revised EA. Thus, the public is left without the underlying data and analysis to provide an independent analysis but with the knowledge that, for example, the “risk profile” of the assumption for flight operations other than Visiting Units is very high and that a number of other critical assumptions have a medium to high likelihood of changing when the analysis is finalized (see Table 2.1-List of Assumptions).

Second, the Air Force seemingly forgot the lesson one would have thought it had learned from the original EA when it first ignored the largely Spanish-speaking neighborhood closest to Davis Monthan AFB. One of the rationales for an extension of the comment period on the original EA was the Air Force’s late translation of the Revised EA’s executive summary into Spanish. Yet, oddly, the Air Force neglected to provide a translation of this EA’s executive summary and only provided a translated copy of the draft FONSI. Further, the Air Force has not reached out in any other way to residents of the Julia Keene neighborhood. The residents with known interest in this issue never received a postcard or a letter informing them of the

availability of the revised EA, nor a copy of the EA in either English or Spanish. Indeed, it is telling that in the Revised EA, the Air Force gives itself credit for sending notices to disproportionately affected neighborhoods regarding the public scoping meetings and the release of the original EA, but not for the Revised EA. (p. 4-18). The residents in these neighborhoods have not lost interest in actions that affect their health, safety and well being.

IV. The Analysis of Cumulative Effects Continues to Be Missing and/or Inadequate

In Comment Letter I on the original EA for the OSB program, we pointed out numerous deficiencies in the cumulative impacts analysis for past, present and reasonably foreseeable future actions. We observed that the Air Force that it had “a particular burden in relationship to the past and present activities undertaken in OSB because the Air Force failed to comply with NEPA at the time significant operational and programmatic changes were made a number of years ago.” Comment Letter I at 14. We also reminded the Air Force that, “the CEQ regulations do not just require the identification of actions having impacts on the same resources; they require analysis of those impacts” and noted that the EA did not provide such analysis.² Comment Letter I at 14. We stated that, “the Air Force needs to substantially rework the cumulative effects analysis” and that when done appropriately, we believed the analysis would, in fact, trigger a determination of significance, thus requiring preparation of an EIS. *Id.* Whether that is the case remains unknown, of course, because the Air Force has failed to publish an adequate analysis of cumulative effects.

In regards to cumulative impacts of past actions, the Air Force implies, in the Revised EA, that commentators are seeking analysis of aircraft that are no longer flying, (p. 2-5). That is not correct. What we actually stated and still stand by is that the Air Force must analyze OSB activities from 1978 through the present in two ways: i) to the extent that aircraft flying now were not being utilized in the OSB program as of 1978, that analysis must now be provided as part of the cumulative effects of past actions, as appropriate and present actions; ii) to the extent that aircraft not flying now were, at some point between 1978 and the present utilized in the OSB program, the Air Force should determine whether those the impacts of those aircraft are the same or very similar to aircraft now being proposed to be added to the OSB program, and if so, determine whether analysis of those impacts would be a useful addition to the analysis for the decision maker and the public.³

² Federal courts have made it clear that a mere cataloging of actions does not equate to cumulative effects analysis. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172 (9th Cir. 2008); *Muckleshoot Indian Tribe v. US Forest service*, 177 F.3d 800, 811 (1999). Further, these requirements apply to environmental assessments as well as EIS's. *Kern v. U.S. Bureau of Land Management*, 2824 F.3d 1062, 1077 (9th Cir. 2002).

³ It is also important to recognize that unlike the original EA, which only addressed OSB, the Revised EA now includes OSB, Multiservice Operations and Foreign Military Operations. OSB was last analyzed under NEPA in 1978; however, the other two operations, though ongoing for some years, have never been subjected to the NEPA analysis that the law requires. Therefore, the analysis of those Operations should include an exhaustive analysis of their impacts since their commencement.

Unfortunately, in the Revised EA any analysis of cumulative effects related to present and reasonably future actions remains missing in action. The Revised EA continues to merely identify actions without providing the analysis of the synergistic effects of those actions combined with the TFT program. Indeed, with the very minor addition of the mention of air shows, the analysis is essentially unchanged from the original EA. Neither the reader nor the decision maker are any better informed about the cumulative effects of the flights covered under the TFT program, other daily flight operations, CBP and TIA flights, etc., than they were before reading the Revised EA. Indeed, in Section 5.2, “Cumulative Effects Analysis,” the statement is made that overlaps of use of military airspace “has not resulted in cumulative impacts” (p. 5-4). This suggests that the writer may believe that cumulative effects related to noise only occur if there are several flights in the vicinity of the same airspace at the same time. To the contrary, noise intrusions, whatever the cause of origin, can have cumulative effects on human beings through exposure to single noise events over a period of time. As discussed in the next section, a credible assessment of the health effects of noise would shed light on the true nature of the cumulative effects of the TFT program in combination with other noise.

V. The Revised EA Inexplicably Continues to Ignore Health Impacts.

NEPA requires federal agencies to assess the potential impacts of their proposed actions. Federal courts are deferential to agencies’ analyses in areas of their expertise provided that agencies insure professional integrity, including scientific integrity, of the discussion and analyses, even when there is scientific disagreement. Agencies are free to reject critical comments on their analysis so long as credible opposing views are identified and an agency explains why comments do not warrant further agency response, “citing the sources, authorities, or reasons which support the agency’s position. . . .” 40 C.F.R. 1503.4; *see also, Committee for Nuclear Responsibility v. Seaborg*, 463 F.2d 783, 787 (D.C. Cir. 1971).

What an agency is not free to do is simply ignore an entire category of impacts with no explanation. In Comment Letter I, we addressed in some detail the Air Force’s failure to address health impacts of the current and proposed flights under the OSB, now the TFT, program. Comment Letter I at 4-5. Broadly speaking, we identified two types of health impacts. First, we discussed the “considerable body of professional literature on the health impacts of noise,” cited current work done on this issue and pointed to literature on the subject. Secondly, we raised our concerns regarding black carbon deposits found over homes within the flight pattern and epidemiological research linking ultrafine particles contained in jet fuel with adverse human health impacts. *Id.* at 5.

In regards to the health impacts of noise, four days after Comment Letter I was submitted, Harvard School of Public Health and Boston University School of public health released a study analyzing noise impacts from 89 airports in the United States and utilizing data for approximately six million study participants. Noise levels were estimated “at the centroid of each census block surrounding each of the 89 airports out to a minimum of 45 dB” The study “found a statistically significant association between exposure to aircraft noise and risk of hospitalization for cardiovascular diseases among older people living near airports. This relation remained after controlling for

individual data, zip code level socioeconomic status and demographics, air pollution, and roadway proximity variables.” Correia, Andrew W., Peters, Juenette L., Levy, Jonathan, Melly, Steven, Dominici, Francesca, “Residential Exposure to Aircraft Noise and Hospital Admissions for Cardiovascular Diseases: Multi-airport Retrospective Study”, *BMJ* 2013; 347:f5561; available at <http://www.bmj.com/content/347/bmj.f5561>, (last accessed 10/27/14). A study of individuals living in the vicinity of Heathrow Airport in London reached similar conclusions at about the same time as the American study. Hansell, Anna, Blangiardo, Marta, Fortunato, Lea, Floud, Sarah, Kees de Hoogh, Frecht, Daniela, Ghosh, Rebecca, Laszlo, Helga, Pearson, Clare, Beale, Linda, Beevers, Sean, Gulliver, John, Best, Nicky, Richardson, Sylvia, Elliott, Paul, “Aircraft noise and cardiovascular disease near Heathrow airport in London: small area study.” *BMJU* 2013: 347:f5432, available at <http://www.bmj.com/content/347/bmj.f5432> (last accessed 10/27/14).

The Revised EA does characterize “health issues relative to noise and stress” as one of the most frequently cited concerns in comments letters on the original EA. Indeed, of impact issues raised, it was the fourth most common of fifteen issues identified (see Table 1-1). Yet the response to this significant issue was stunningly underwhelming. In the table summarizing responses to comments, health impacts are lumped together with safety risks and never addressed separately (Table 1-2). In Table 2-8, summarizing impacts, health is not even listed, although impacts receiving less attention by the affected public are identified. There are four sentences regarding impacts of noise in the body of the Revised EA (p. 3-4), none of which are specific to impacts of TFT flights over Tucson, and one which is a general statement regarding Air Force noise policy.(p. 3-5). The only other mention of health at all in the EA is in an introductory clause leading to a discussion of safety, as in “Health and safety risks,” but with no discussion of health effects. And indeed, health impacts are not even mentioned in the section on cumulative effects.

The Revised EA’s response to the concerns about particulate matter is equally unsatisfactory. The only mention of this type of comment at all is in Table 1-2, summarizing responses, in which it is stated that, “DMAFB will take into consideration complaints about black particulate matter accumulating in home AC filters.” The Air Force fails to explain how it will take these complaints into account, let alone discuss the nature and impacts of the particulate matter. And Comment Letter I did not refer to air conditioning filters, but rather illnesses potentially related to the particulates.

These paltry responses utterly fail to even acknowledge the substantive comments made regarding this issue, let alone to take the required “hard look” at the potential impacts. The Air Force needs to take this issue seriously and proffer an intelligent response. The Department of Defense long ago recognized that the health effects, both the physiological effects and psychological effects (excluding direct effects on hearing), were important issues in relationship to overflights and noise. While earlier reports noted that, for example, “[t]he results of early studies conducted in the United States, primarily concentrating on cardiovascular response to noise, have been contradictory,” DOD’s *Supplemental Metrics*, discussed above, recognized some progress in understanding the health effects of noise and noted that more research was needed. *Supplemental Metrics*, pp. 3-14 - 3-16. The Air Force has an obligation under NEPA to keep itself informed of the latest research results, including, but not limited to the recent reports

identified in this letter. 40 C.F.R. § 1502.22(a). “[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.” *League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Service*, 689 F.3d 1060 (9th Cir. 2012), citing *Or. Natural Res. Council Fund v. Brong*, 492 F.3d 1120, 1134 (9th Cir.2007) (internal quotation marks omitted).

VI. The Revised EA Still Does Not Adequately Address Impacts to Children.

In Comment Letter I, we pointed out the fact that the EA failed to include an assessment on children as required by Executive Order 13045 (Protection of Children). The EO requires an assessment of “health risks and safety risks that may disproportionately affect children.” Comment Letter at 3. The revised EA purports to address this comment but does so in a very cursory fashion. For example, Section 3.3.5 is entitled “Protection of Children” and references EO 13045, but the bulk of the paragraph simply discussed the EO requirements, and the reason it was issued. The sole “analysis” included in this section is the assertion that “Schools and day care centers in the region were investigated, and it was determined that no schools and one day care center licensed for up to 60 children are located with the current 65 dBA DNL contour.” Revised EA Section 3.3.5, p. 3-23. This assessment, however, falls far short of what is required under EO 13045.

The impact of noise on the cognitive development of children has been recognized in the scientific literature. For example, a 2011 study by the World Health Organization addressed at length the adverse impact that airport noise in particular has on the cognitive development of children. *See* “Burden of disease from environmental noise: Quantification of healthy life years lost in Europe,” pp. 45-53 (excerpts attached as Exhibit 2) (“WHO Study”). As EPA has advised in a 2012 memorandum regarding “Addressing Children’s Health through Reviews Conducted Pursuant to the National Environmental Policy Act and Section 309 of the Clean Air Act,” NEPA documents, including environmental assessments, should consider the impact that noise can have on children’s health and learning, especially when it occurs near homes, schools, and daycare centers. (available at <http://www.epa.gov/compliance/resources/policies/nepa/NEPA-Children's-Health-Memo-August-2012.pdf>, last accessed 11/4/2014). EPA advises that noise can impact children’s learning and stresses that when evaluating military bases or training, agencies need to consider the impact that an increase in noise will upon residences, schools, or child care facilities. *Id.*

As we pointed out in Comment Letter I, there are several schools within the flight pattern of Davis-Monthan, and one of them, the Griffin Foundation Charter School (elementary and middle school) appears to be barely outside the 65 dB noise contour.⁴ Griffin has an enrollment of approximately 400 students, and also includes a day care facility. Other nearby schools while not necessarily as close to the 65dL flight contour are nonetheless close enough to be impacted by the increased noise, a fact that would likely be established if a more comprehensive noise analysis that

⁴ Notably, Griffin School is located in the very same shopping center that was the site of a 1967 crash of a Davis-Monthan jet. <http://www.tucsonfirefoundation.com/wp-content/uploads/2012/07/1967-Food-Giant-Diaster.pdf>

included the supplemental metrics recommended by DOD were undertaken. As noted above, the analysis should include metrics that are specific to classroom noise. For schools (as for so much else), these supplemental metrics are far more important, useful, and revealing than the DNL metric.

Finally, the noise impacts upon children are not limited to noise experienced in the school or daycare setting. The impact on children living within the flight pattern must also be taken into account. Much of the noise contour extends over residential neighborhoods. According to the revised EA, up to 128 single family residences and 4 multifamily residences are within the 65dBA DNL contour alone. Children living in those residences will be adversely impacted by the noise and the Air Force has an obligation under NEPA and EO 13045 to undertake a meaningful evaluation of the nature and extent of those impacts. Nor is the impact limited to children within the 65dBA DNL contour. Impacts to health are experienced at lower levels as well. The WHO study found that levels as low as 30 dB could disturb sleep and result in documented health impacts. *See WHO Study, Table 4.1 Nocturnal Noise.* Because the revised EA fails to even address these potential health impacts on children living within the flight pattern, it fails to comply with EO 13045 and NEPA.

VII. The Public Safety Analysis Continues to be Inadequate.

Comment Letter I raised three issues with respect to the public safety analysis. First we objected to the fact that the safety analysis failed to fully evaluate all potential aircraft that may be participating in OSB. That remains true in the Revised EA. Even though the scope of the analysis has expanded to include programs in addition to OSB, and the Revised EA acknowledges that over the past seven years, 18 different aircraft have been used in TFT (see Revised EA, Table 2-1, p. 2-6), the public safety analysis only considers the risk factors of 8 aircraft. The Air Force offers no explanation for why it did not include all potential aircraft and, in fact, there is no legitimate reason not to. Moreover, although the Revised EA acknowledges the recent decision to beddown 72 F-35A aircraft at Luke Air Force Base, it fails to even consider let alone address the possible inclusion of the F-35A in the TFT operations, even though such participation is reasonably foreseeable.

The second concern raised in Comment Letter I was the narrow scope of the safety analysis. By limiting the analysis to Class A mishaps, the Air Force continues to understate the risk that the proposed action presents to the public. We continue to believe the safety analysis is inadequate and deliberately misleading.

Finally, the third concern was the failure on the part of the Air Force to acknowledge the risks presented by pilots unfamiliar with the Tucson airspace. In its response to comments, the Air Force appears to misunderstand or misconstrue our earlier comment. Our concern was not that the visiting pilots were not properly trained. Our comment, based on first-hand experience of a former air traffic controller, was that even experienced pilots have to adjust to the unique requirements of DM and Tucson geography. As Comment Letter I explained:

However, what the EA fails to acknowledge is that over the years, the practical experience with OSB pilots has revealed that even after these local area briefings, there is an initial adjustment period at the beginning of each training week where pilot errors are much more prevalent. For example, an occasional error made by visiting

pilots is the mistake to turn immediately after take off and not fly a straight-out course as required, often risking an in-air collision with another recently departed aircraft traveling on a parallel departure route off of TUS. Reynolds Decl. ¶10. Another repeated problem area are recoveries instructed to fly the Davis recovery, erroneously flying off the radials of DM tacan and not Tus Vortac. *Id.* at ¶11. Also prevalent are aircraft descending earlier than instructed on this recovery. *Id.* at ¶12. These mistakes provide a greater potential for loss of separation particularly closer in to the Tucson airport where due to the already close proximity of the airports, strict adherence to procedures and instructions are needed. *Id.* at ¶13. Such collisions have, fortunately, been avoided in the past because of the vigilance of the Tracon air traffic controllers, but it is a recurring problem that will only be exacerbated by an expansion of the program. *Id.* at ¶14.

Comment Letter I at p. 10. Thus, because it misunderstood or misconstrued the original comment, the Revised EA fails to address this concern and the safety analysis remains inadequate in this regard as well.

All of these safety issues should be fully addressed in either a Revised EA or an EIS.

VIII. The Environmental Justice Analysis Also Remains Inadequate.

Comment Letter I addressed at length the inadequacies of the environmental justice analysis in the original EA. Our comments took issue with the Air Force's assertion that it had reached out to the affected communities. We pointed out that this assertion was demonstrably false, and that, in fact, the outreach had been minimal and untimely. Comment Letter I at pp. 11-12. The Revised EA does not correct this misstatement but rather simply repeats it. Revised EA at 4-18; 1-11. Moreover, there was no effort on the part of the Air Force to reach out to the affected communities in connection with the Revised EA. No fliers or post cards advising of the release of the Revised EA were directed to the Julia Keen neighborhood—the neighborhood most directly affected. Rather, the Air Force relied almost exclusively on internet notifications and the DM website, even though low income minority communities are less likely to have internet access. The only Spanish translation prepared in connection with the Revised EA is of the FONSI. That is simply insufficient to allow for meaningful participation by the residents that the Air Force admits are disproportionately affected by the proposed action.

The other problems identified in Comment Letter I, the lack of a surface noise analysis and failure to identify mitigation measures, remain unaddressed in the Revised EA. Thus, we reassert those objections and continue to contend that the environmental justice analysis is woefully inadequate.

IX. The Revised EA's Characterization of the "No Action" Alternative is Incorrect

Comment Letter I explained that:

Federal regulations explicitly require that environmental review be timely. "Agencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts." 40 C.F.R. § 1501.2 (2005). Consistent with this requirement, the Ninth Circuit has repeatedly held that dilatory or ex post facto environmental review cannot cure an initial failure to undertake environmental review. *See, e.g. West v. Secretary of the Department of Transportation*, 206 F.3d 920, 925 (9th Cir. 2000) (holding that if completion of the challenged action were sufficient to moot a NEPA claim, an agency "could merely ignore the requirements of NEPA, build its structures before a case gets to court, and then hide behind the mootness doctrine. Such a result is not acceptable").

Therefore, where an agency has failed to undertake the required NEPA analysis for prior decisions, it may not attempt to validate those prior decisions in a subsequent NEPA analysis that fails to remedy the earlier omission. *See, e.g. Pitt River Tribe v. United States Forest Serv.*, 469 F.3d 768 (9th Cir. 2006) (held that where agencies never took the requisite "hard look" at whether the Medicine Lake Highlands should be developed for energy at all, and by the time the agencies completed an EIS, "the die already had been cast," the 1998 lease extensions and the proposed development of the invalid lease rights violated NEPA.) *Friends of Yosemite Valley v. Kempthorne*, 520 F. 3d 1024, 1037-1038 (9th Cir. 2008) (Court rejected the Park Service's decision to use components of a 2000 Comprehensive Management Plan that had previously been struck down by the court as the basis for its No Action alternative. The court held that the No Action alternative may not "assume the existence of the very plan being proposed.)

Here, the Air Force is assuming the existence of a Snowbird Program that permits year-round flying of aircraft other than A-10s. But there is no NEPA-compliant agency decision underpinning these activities. Rather, they are taking place with gross disregard for NEPA's requirement that all federal actions undergo prior environmental review. Because there is no current NEPA-compliant decision authorizing overflights by aircraft other than A-10s, the No Action alternative in the current EA has been improperly defined. The only NEPA-compliant OSB program is the one that was in existence in 1978. That, not the program as it existed—in violation of NEPA—in 2009, should be used as the No Action alternative. The citizens of Tucson were, and remain, entitled to have the decision to expand the OSB program from a winter only program limited to A-10 aircraft to a year round program involving louder and more dangerous aircraft fully evaluated as NEPA requires.

Comment Letter I at 18-19 (emphasis added).

We continue to believe that the argument laid out above is valid and that the program as it existed in 1978 is an appropriate “no action” alternative. The Air Force’s argument that its analysis in 1978 was “immature and insufficient” (p. 2-5) is hardly a defense to not evaluating the change in flying profiles at this point. However, we do wish to suggest an alternative approach. The Air Force could follow the standard practice of analyzing the current TFT program as the “no action alternative.” This is consistent with CEQ’s direction on characterization of the no action alternative in the face of ongoing actions:

Section 1502.14(d) requires the alternatives analysis in the EIS to "include the alternative of no action." There are two distinct interpretations of "no action" that must be considered, depending on the nature of the proposal being evaluated. The first situation might involve an action such as updating a land management plan where ongoing programs initiated under existing legislation and regulations will continue, even as new plans are developed. In these cases "no action" is "no change" from current management direction or level of management intensity. To construct an alternative that is based on no management at all would be a useless academic exercise. Therefore, the "no action" alternative may be thought of in terms of continuing with the present course of action until that action is changed. Consequently, projected impacts of alternative management schemes would be compared in the EIS to those impacts projected for the existing plan. In this case, alternatives would include management plans of both greater and lesser intensity, especially greater and lesser levels of resource development.

Question 3, *Forty Most Asked Questions Concerning the Council on Environmental Quality’s National Environmental Policy Act Regulations*, 46 Fed. Reg. 18026 (March 23, 1981, as amended; available at <http://energy.gov/sites/prod/files/G-CEQ-40Questions.pdf> (last accessed 11-12-2014).

The Air Force would still be responsible for evaluating the impacts of the program from 1978 to the present in so far as it is able to identify and analyze cumulative effects of these past actions. This is particularly important here because, as noted elsewhere, not only has the Air Force failed to comply with NEPA since 1978 with regard to the OSB program, it has never completed a NEPA analysis on the other programs included in the Revised EA. Moreover, because the FONSI is based only upon the incremental change in impacts since 2009 rather than the full range of environmental impacts foisted on the affected community without any NEPA analysis since 1978, it dramatically understates the true impact that the TFT activities have had and continue to have on the Tucson population living and working in the DM flight pattern.

The Air Force argues that 2009 is a better “no action” alternative because it is “similar to the average number of annual sorties flown between 2002 and now.” But there is nothing in applicable law or guidance regarding the “no action” alternative that suggests that an agency can take average activity over a twelve year period and call that the “no action alternative.” The preponderance of the guidance on point weighs in favor of using the flights being experienced now and perhaps over the past one or two years. Budget constraints, part of the rationale for the decrease in flights in the past few years, may well continue into the foreseeable future; other factors, especially those dealing with

responses to unrest in other parts of the world, are hard to predict. What is known is what is happening now, even if it was not the decision made originally. *See Seattle Audubon Society v. Lyons*, 871 F. Supp. 129, W.D. Wash. 1994 (affirmed that the current management was the correct “no action” alternative even though it was different from the alternative chosen in the existing management plan, which had been held invalid by a court).

What is apparent, however, is that the analysis of the “no action” alternative under either scenario - 1978 or the present - deserves full analytical treatment in the EA. The “no action” alternative in this revised EA suffers from the same deficiencies as the original EA in that the analysis presented is superficial and conclusory, entirely omits an analysis of health issues, suffers from major gaps in the noise analysis and virtually ignores any analysis of cumulative effects (as opposed to words on a page titled “cumulative impacts.” These failures begin with the failure to adequately evaluate a “no action” alternative. *Pitt River Tribe*, 469 F.3d at 768.

X. The EA Responds Inadequately to the Impacts of Dropping Ordnance

In response to the comment in Comment Letter I that the original EA failed to address the impacts of ordnance, the Revised EA notes that NEPA documents do exist for the ranges where ordnance would fall. However, absolutely no citations are provided to those documents. Nor does the Revised EA indicate that those NEPA documents address the future impacts of TFT’s proposed jump from baseline conditions to the conditions that would exist under the Preferred Alternative, which seems unlikely. Clearly, the release of ordnance from planes leaving DM AFB is a closely connected action, which is triggered by the flight of planes from DM AFB and which is an interdependent part of a larger action. The Air Force should provide citations and links to the documents to which it refers.

XI. The Revisions to the Economic Analysis Fail to Address the Potential Adverse Impact that Increased Flights Could Have on the Central City.

Although the Revised EA purports to revise the economic analysis, it appears that the only substantive change is including more recent information regarding property valuations. It does not address the methodology problems we identified in Comment Letter I. Nor does it correct the most glaring error—relying solely upon past changes in property values as some sort of justification for its assertion that increased flights by louder planes will have a “negligible” effect on property values and tourism in the central city. This dismissive response insults those of us who live in midtown, for whom the effects of aircraft noise on property values is a significant concern. It also fails to address the potential economic impact of inverse condemnation claims or similar litigation that may be brought by residents who experience a decline in value to their properties. *See http://www.kaplankirsch.com/files/Airport_Noise_Litigation_in_the_21st_Century_As_Published.pdf*

If the Air Force were truly interested in evaluating the impact that increased flights may have on property values, it would begin by conducting a meaningful analysis of property values closest to DM from 1978 to the present, which includes the year-over-year changes in property values as correlated with the year-over-year changes in aircraft noise levels and the year-over-year changes in property values of other areas of Tucson. That would capture the impact that the

expansion of the OSB program from a winter time program to a year round TFT has had on property values for those homes that have borne the brunt of that expansion, and could be used to extrapolate what a further increase in flights will have in the future. NEPA requires an analysis of reasonably foreseeable impacts, which by necessity requires the analysis to be forward-looking.

An analysis of hedonic property values is also warranted. See "Meta-Analysis of Airport Noise and Hedonic Property Values (Nelson, 2004). Every one of twenty hedonic studies confirms that property values decrease with aircraft noise. Even the FAA states bluntly, "Studies have shown that aircraft noise does decrease the value of the residential property located around airports." CITE

In sum, the dismissive attitude toward the concerns of residents regarding the value of their home—usually their most valuable asset—is both contrary to the requirements of NEPA and, frankly, discredits the Air Force.

XII. Conclusion.

In conclusion, we continue to believe that the environmental assessment conducted by the Air Force for OSB and now TFT fails to adequately address the full impact of the proposed action, and understates the significance of impacts that those programs have had and will continue to have on nearby residents. For the reasons explained above and in Comment Letter I, we believe that a full EIS is warranted; however, at a minimum, the Air Force should further revise the EA to address each of the inadequacies identified above.

Sincerely,

Americans for Livable Communities

By: _____
Rita B. Ornelas

Arizona Center for Law in the Public Interest

By: _____
Joy E. Herr-Cardillo