UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

7/12/2010

Adrianne Saboya
Naval Facilities Engineering Command, Southwest
1220 Pacific Highway
San Diego, CA 92132-5190

Subject: Draft Environmental Impact Statement for United States Marine Corps F-35B West Coast Basing, California and Arizona (CEQ # 20100175)

Dear Ms. Saboya:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our detailed comments are enclosed.

The Marine Corps proposes to base 11 operational F-35B Joint Strike Fighter Squadrons (176 aircraft) and 1 F-35B Operational Test and Evaluation squadron (8 aircraft) at Marine Corps Air Stations at Miramar and Yuma to replace legacy aircraft that are out of production, and to conduct training and readiness operations in existing airspace ranges. Based on our review, we have rated the DEIS as Environmental Concerns – Insufficient Information (EC-2) (see enclosed "Summary of Rating Definitions"). Our concerns regard significant noise impacts to sensitive receptors near MCAS Yuma and the absence of identified mitigation measures.

EPA appreciates the opportunity to review this DEIS. When the Final EIS is released, please send one hard copy and one electronic copy to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3521, or contact Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

/s/ *Connell Dunning for*

Kathleen M. Goforth, Manager
Environmental Review Office (CED-2)

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

Noise Impacts

Noise was one of the primary concerns expressed by the public at project scoping meetings (p. 1-6). The DEIS has identified noise impacts that would occur under the Preferred Alternative 1 at Marine Corps Air Station (MCAS) Yuma that EPA considers significant. Alternative 1 would expose an additional 3,823 individuals to noise levels above 65 decibels (dB) day-night average sound level (DNL), an increase of 89% over current levels (p. 5-18), with 707 additional individuals experiencing DNL levels above 75 dB (p. 5-15). It is unclear whether these estimates are low, since 2000 census data[1] were used (p. 5-6) and it does not appear that adjustments were made to account for any population increases since that time.

Additionally, a number of schools in the vicinity of the installation would be subject to noise levels 70 to 75 dB DNL under the Preferred Alternative. This increase would be especially noticeable to those attending Yuma Lutheran and Mount Zion schools (p. 7-42). Yuma Lutheran and Mount Zion are currently exposed to aircraft noise levels of 65 to 70 dB DNL. These schools would experience a 5 to 6 dB DNL increase placing them in the 70 to 75 dB DNL range. Another school, James Rolle Elementary, which currently is exposed to noise levels 65 to 70 dB DNL, would experience a 3 dB DNL increase placing it in the 70 to 75 dB DNL range (p. 5-121). The DEIS concludes that these impacts would not be substantial to children, however the basis for this conclusion is not clear. EPA identifies a DNL of 55 dB as protective for sensitive areas including residences, schools and hospitals[2].

Elevated noise levels at schools are of concern because research on the effects of aircraft noise on student learning indicates interference with reading, motivation, language and speech, and memory[3]. These represent acoustical barriers to learning, especially for young children since they are more susceptible than adults to the effects of background noise on spoken communication[4]. The DEIS does not identify these as significant impacts, nor are any mitigation measures identified, as required by 40 CFR 1502.16(h). Additionally, since noise impacts above 75 dB DNL are predicted, public health impacts should be discussed[5].

> *Recommendations*: The Final EIS (FEIS) should clearly identify a significance criterion for noise impacts and substantiate its conclusion that impacts to children at aforementioned schools would not be substantial. As mentioned, EPA recommends 55

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[1] The DEIS states that, while more recent population estimates are available, the 2000 census data offers the most complete actual population count and the only data on minority and low-income populations which is important for the EJ analysis.

[2] See "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," EPA/ONAC 550/9-74-004, March, 1974. http://nonoise.org/library/levels/levels.htm

[3] http://www.fican.org/pdf/Effects_aircraft.pdf

[4] ANSI S12.60-2002 American National Standard, *Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools*

[5] See Goines, Lisa RN and Hagler, Louis MD. "Noise Pollution: A Modern Plague", *Southern Medical Journal*: March 2007 - Volume 100 - Issue 3 - pp 287-294. According to the authors, the potential health effects of noise pollution are numerous, pervasive, persistent, and medically and socially significant.

dB DNL for sensitive receptors, but at a minimum, exposure impacts to sensitive receptors greater than 65 dB DNL should be identified as significant and mitigation measures discussed that would reduce these impacts. Specific mitigation for affected schools should be discussed.

EPA recommends the following mitigation measures be identified, with a brief discussion on possible modes of implementation:

- Utilize monitoring and adaptive management to allow for changes to the proposed action in the future based on the number of noise complaints from the community.
- Retrofit of affected schools with appropriate measures to achieve the new classroom acoustics standard of the American National Standards Institute (ANSI). Such mitigation measures could include adding insulation, adding a second window pane or replacing windows with better sound attenuation, sealing gaps or leaks in windows and doors, installing baffles in vents and improving the exterior roofing, consistent with radon safety.
- Provide a funding mechanism for off-base residences within the new 65+ dB noise contours under the project, to be used for appropriate noise reduction mitigation measures, such as identified above. If necessary, the Marine Corps should request authorization from Congress to fund off-base noise mitigation measures and to explore acquiring property interests from willing sellers for the 707 residents that would experience DNL levels above 75 dB.

Mitigation Measures

As mentioned above, no mitigation measures are identified for noise impacts, and in general, the DEIS states that the Executive Summary includes a list of proposed mitigation measures for the project (p. 1-7); however, no such list is present. The DEIS does identify air quality mitigation measures for construction emissions in the air quality chapter, which we commend.

Recommendation: Include a list of mitigation measures in the FEIS. For the air quality mitigation measures identified on pp. 4-49 and 5-53, we recommend that the Marine Corps require these measures as requirements in all construction contracts.