



JOB MEMO

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FROM: Michael Bahtiarian, INCE Bd. Cert. {mikeb@noise-control.com}
DATE: February 20, 2009
SUBJECT: **Hanscom Field Hanger 24 Project**
CC:

INTRODUCTION

Noise Control Engineering (NCE) has been retained by Klavens Law Group, P.C. to review noise portions of a draft Environmental Assessment for the Replacement of Hanger 24 at Bedford Hanscom Field owned and operated by the Massachusetts Port Authority (Massport). NCE has read through the Federal Aviation Administration (FAA) draft Environmental Assessment, reference [1] and a Technical Memorandum, reference [2], prepared for Massport regarding development of the East Ramp at Hanscom Field.

DISCUSSION

The FAA draft Environmental Assessment [1] provides background and discussion of the proposed options relative to use of Hanger 24 at Hanscom Field. A summary of the potential environmental impact from "Aircraft Noise" is given. This discussion of airport noise appears to rely on the results of the study summarized by HMMH in reference [2]. This document provides background on the aircraft noise analysis (using Integrated Noise Model, INM), documents inputs to INM, provided results and conclusions. The document provides an appendix that discusses the effectiveness of the in-place berm and an appendix which provides tabulated aircraft operations.

After preliminary review of the above information, NCE has the following comments on the potential environmental impact of the replacement of the existing Hanger 24 with a new Fixed Base Operator (FBO) facility.

1. The environmental analysis appears to have not addressed potential noise impacts from increased ground operations of the proposed FBO. NCE estimates that the new FBO could be located as close as 250 feet from the nearest residential abutter. The distance of the same home from the closest current FBO buildings is 2,100 feet for Jet Aviation and 2,900 feet for Signature Flight Support. The reference [2] analysis does claim that the aircraft activity levels were conservatively increased even though a new FBO may not

result in increased aircraft activity at Hanscom.¹ Further, the report states in section 2.2 that, “The flight track and runway use data is identical to that prepared for the 2005 ESPR.” NCE would then assume that the analysis does not include the effects of increased noise coming from jets taxiing much closer to the abutting homes on Virginia Road. NCE estimates that location of a new FBO at the location of existing Hanger 24 could result in an increase in jet taxi noise of 20 dB. The absolute sound level of the jet taxi noise could be around 60 to 70 dB(A) based on spherical spreading. In the worst case situation, this would be 30 to 40 dB above typical nighttime background noise levels for this area when other flight operations are not occurring. This would be a perceptible increase and could interfere with sleeping.

2. Along with increased noise from jet taxi operations, NCE is also concerned that the Environmental Assessment did not address the increased noise from the FBO facility as would an evaluation of any other industrial-type building. Given that the building could be located as close as 250 feet from a residential abutter, noise from the proposed building mechanical systems such as air conditioning units, air compressors and even back-up generator along with any FBO operations outside the hanger (fueling, repairs, loading, etc.) could result in noise that exceeds state and local noise regulations.
3. One of the conclusions made in the HMMH report [2] is that, “Due to shielding provided from the existing noise berm only 9 residents will be exposed to noise levels greater than 65 DNL” by 2010 (and 15 residents by 2015). It should be noted that this berm is located adjacent to a number of homes in the Town of Bedford. The berm will not provide mitigation for the homes adjacent to a Hanger 24 replacement building on Virginia Road (at the opposite side of the airport). Further, NCE does not believe a berm can be sufficient mitigation for aircraft noise and questions whether the berm truly results in the reduction of noise under all conditions as claimed by HMMH. Given that the berm adjustments were taken outside of the INM computations, NCE questions the manner in which the adjustments were taken (i.e. 10 dB reduction for all activity, 10 dB for only specific operations and/or aircraft locations). Given the importance placed on the berm by HMMH and fact that computations were computed outside INM, it seems critical to provide more detail on such computations.
4. NCE also believes that a more realistic assessment of the potential noise impact of airborne aircraft operations and ground operations on receptors in the vicinity of the airport must go beyond typical FAA methodology which uses a 24-hour average Day-night Noise Level (DNL) metric and thresholds of 65 dB(A) DNL and, within the 65 dB(A) DNL contour, increases of 1.5 dB. The DNL metric and these thresholds are useful for providing only a very general sense of land use compatibility but do not realistically

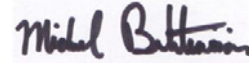
¹ The HMMH report does evaluate cumulative impact of the Hanger-24 replacement and East Ramp, but does not separate the affects. Based on discussion given in the report, the increased aircraft operations are attributable to the East Ramp and Hanger 24 would not add any operations.

and adequately gauge how receptors perceive the impact of discrete noise events and noise events at particular times of day. To adequately gauge such perceptions, one must use additional metrics that were recommended in the 1999 Hanscom Field Noise Workgroup report. Further, evaluation of sleep disturbance using recently revised ANSI S12.9-2008, Part 6 would be valuable.

REFERENCES

1. Federal Aviation Administration, New England Region, Draft Environmental Assessment, National Historic Preservation Act, Section 106 Determination, Department of Transportation Act, Section 4(f) Statement, Replacement of Hanger 24, Bedford Hanscom Field, dated February 2009.
2. Harris Miller Miller & Hanson, Inc Technical Memorandum, Analysis of Proposed Development of the East Ramp at Hanscom Field, HMMH Project Number 302710, dated July 9, 2008.

Reviewed and Approved By:



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