Douglas Hammon

From: Albee, William [walbee@wylelabs.com]
Sent: Monday, April 11, 2005 2:47 PM
To: Wes Butch; Douglas Hammon
Cc: Jason Whitten; Morrow Clint
Subject: RE: WOOSE Report
Attachments: HighPointReport_FINAL.pdf; Inclusive Approach Final_August 2004.pdf

Doug and Wes

The WOOSE report quoted from a Wyle Report done for the City of High Point, NC regarding sleep disturbance and they used it out of context. Attached is the full High Point report. The quote is from the Executive Summary near the bottom of the first page.

We stand behind what we said in that report about NA being a better metric to relate exposure to sleep disturbance research results at any given location in a study area. By the way, High Point chose to use the NA contours rather than DNL in their zoning overlay ordinance. We have done some similar NA analysis for the LAX Master Plan to characterize nighttime exposure and relate it to sleep disturbance.

At the October meeting, there was some reference by WOOSE to the paper I wrote regarding a more inclusive approach to a noise study. As you know, we have proposed to do the supplemental analysis advocated in that paper out beyond the DNL 65 dB contours in the OSUA EA as an optional task. We have already expanded the DNL analysis out to the Worthington area and we have shown the expected shift in DNL levels for the preferred alternative compared to the base case and the future no-build case throughout the entire study area. You may recall that it shows some decrease in the Worthington area off the south runway and some increase to the north with implementation of the preferred alternative.

What we were proposing to do was to pick some grid points along the base case and preferred alternative flight tracks, and maybe a few others at noise sensitive locations in Worthington to calculate the NA values at the selected threshold(s) and then show that the DNL changes are comprised of the resulting number of events above the selected threshold(s). This approach ties into the section of my paper on the Inclusive Approach from which they also quoted in their report. Here is the section that clearly states that DNL is still the primary metric to define mitigation measure boundaries, but that NA and TA are better metrics to communicate noise to the average citizen in terms that they can more easily understand. I do not nor have I ever advocated supplanting DNL with the NA and TA metrics. I have only advocated using NA and TA as supplemental metrics to better communicate noise exposure, because it translates DNL into something more understandable. Here is the pertinent section:

Effectively Communicating Noise Exposure

As stated previously, communicating noise exposure to everyone in the defined study area is the main premise of the "inclusive" noise study approach. Study officials who are persuaded to adopt a more inclusive approach must decide how best to communicate exposure to their stakeholders. It is widely accepted that the DNL metric is appropriate for land use planning and implementing noise mitigation measures, but it often fails to clearly communicate noise exposure to the general public because it is an average noise level whereas people notice individual noise events. The Federal Interagency Committee on Aircraft Noise stated in a 2002

report: "FICAN finds that Supplemental metrics provide valuable information that is not easily captured by DNL. Supplemental metrics are particularly useful for assessing the effects of aircraft noise on interference with activities such as sleep and speech. In these cases, the use of metrics such as single exposure metrics can provide a more meaningful estimate of interference than a single DNL estimate." Noise metrics other than DNL are better suited to communicating exposure in terms of how many loud events will occur every day at any given place in a study area or how much time out of a day aircraft noise will be at or above noticeable levels. These supplemental noise metrics are referred to as Number-of-events Above (NA) and Time Above (TA).

Ideally, exposure is communicated in all of these metrics. An entire study area map can be overlaid by a grid, with each block (usually square) ranging in size from perhaps a few hundred to a thousand feet or more on a side. The average DNL value for each block can be calculated and displayed in each block, and the boxes can be shaded with different colors for DNL values in each 5 or 10 dB range. The result is a map showing noise exposure for the entire study area, and the color coding instantly distinguishes the higher exposure areas from the lower exposure areas…. The number of events above the selected threshold value (such as a maximum level (Lmax) of 65 dB) and the amount of time each day aircraft noise is above that threshold can then be calculated for each grid block. When these values are also resented on the same grid map, anyone in the study area can find the grid block(s) of interest and see the DNL along with the corresponding NA and TA values.

By counting the loudest events, the NA and TA values in each grid block represent the major contributors to the DNL for that grid block. When a low threshold such as 65 dB Lmax) is used, the NA and TA values represent very close to 100 percent of the DNL value but provide a more meaningful measure of the impact. Everyone can relate to a metric that tells them how many times a day the noise will interrupt their conversation. The public generally finds the NA and TA metrics far easier to understand than DNL, and by breaking it down into its component parts, the public can better comprehend the DNL metric.

Let me know if you need any additional input for the meeting tonight.

Regards,

Bill

From: Wes Butch [mailto:wbutch@dlz.com]
Sent: Monday, April 11, 2005 9:26 AM
To: Doug Hammon; Bud Baeslack
Cc: Albee, William; Jason Whitten; Morrow Clint
Subject: Re: WOOSE Report

I have left a message for Bill. When we speak, I will be asking him to write a brief paragraph explaining their position on this. Just briefly, here is my perspective.

The WOOSE report appears to be taking this information out of context. The Wyle position paper in question (which Doug just forwarded to the Dean) discusses the situation where there are noise concerns outside the 65 DNL contour. The Wyle paper is not arguing that the 65 DNL threshold for significant impacts is wrong, should be replaced, or is in some way flawed. Instead, their paper talks about their recommendations for airports and citizens to voluntarily work together to address noise concerns in those situations where significant noise impacts do not occur (i.e., those areas outside the 65 DNL). In these situations only, Wyle recommends the single event and time above analysis to be the most useful tool. This supplemental analysis is voluntary at the discretion of the airport. If WOOSE is trying to argue that Wyle wants the single event and time above analysis to replace the 65 DNL threshold, that is just wrong. I look at it as Wyle's recommendation for going above and

beyond what is required by FAA. Bill explained most of this at the October, 2004 public meetings.

Also, OSU has already indicated to the public their willingness to consider the single event and time above analysis, and this is included in our most recent request for contract modification (not yet authorized). In other words, you already plan to do exactly what they are accusing you of not being willing to do. As we have discussed previously, the timing is not right for this supplemental analysis yet. The other issues related to profiles/thrust and stage 2 percentage had to be sorted out first so that we have accurate base contours. Once we can see where the 65 DNL contours will fall, then OSU can make an informed decision about the need for the supplemental analysis outside the 65 contour.

Wes

----- Original Message -----
From: Doug Hammon
To: Bud Baeslack
Cc: wbutch@dlz.com ; Albee, William
Sent: Sunday, April 10, 2005 8:02 PM
Subject: Re: WOOSE Report

I looked back at the report and think that this relates back to an issue that first surfaced just prior to our meetings in Oct. 04. At the time, a Wyle Noise Bulleting came out that talked about alternative measures, matricies, etc. I believe it was authored by Bill Albee. I also remember Bill addressing this particular issue in both the Advisory Committee Meeting and the public meeting.

If I remember correctly, Bill indicated that as a research entity, Wyle continually examines new methods of studying issues such as noise. One of the issues they continue to look at is how to best measure noise. Although there are methods out there that they continue to examine, these are not yet approved method, and even they must conform to the approved standards in the end.

We all agreed at the time that the timing of the release was not the best, but Bill did deal with it appropriately. Perhaps he can write a short statement that clarrifies this issue that we can keep on file.

Doug

----- Original Message -----
From: Bud Baeslack
To: Doug Hammon
Sent: Sunday, April 10, 2005 5:23 PM
Subject: WOOSE Report

Doug – On page 19 of the report they say that "Wyle believes that the best metric to characterize the noise environment is the Number of Events above a threshold noise level...etc. Can you please check to see if this is an accurate statement, I would find this hard to believe that they would say this, given the FAA requirements, Thanks, Bud