



Date: 8/14/09
To: **Peter Lowitt**
Cc: Neil Angus
From: Doug Sheadel
RE: Review of the Cavanaugh Tocci Associates Report, July 29, 2009

Peter,

I have reviewed the Cavanaugh Tocci Assoc. / Evergreen Solar facility noise report that was recently received with all of the attachments. The report summarizes the field measurements that were conducted to evaluate compliance with the DEC condition #1 related to the Evergreen Solar Noise Violation Resolution dated July 14, 2009. The measurements were witnessed by Modeling Specialties and DEC staff. In addition, simultaneous measurements were made at Receptor R1 using independent Modeling Specialties equipment. As stated, the measured sound levels at R1 indicate compliance with the Resolution's requirement to be reached by July 27, 2009. The CTA analysis correctly evaluated the A-weighted sound level requirement at the nearest DREZ property line and at more distant sensitive receptors. The report addresses the spectrum for tonal influences in the context of the DEC regulations and also the low frequency content at the measured locations. Modeling Specialties concurs with their analysis and conclusions with regard to the Evergreen compliance with the Resolution Conditions.

It is noted that the late night of July 25, 2009 was particularly quiet, providing a suitable backdrop to evaluating the reduced sound emissions from the mitigated Evergreen facility. Additional measurements made along Old Mill Road confirmed that the ambient sound levels in the area were at or below the baseline levels of 33 dBA under those conditions. Based on the permanent noise mitigation features that have been installed at and around the facility equipment, the sound emissions from the equipment can be expected to be not only lower, but more consistent. The remaining operational source at the facility that varies significantly with load is the Cooling Tower complex.

Because of the variations of Cooling Tower sound, it will remain important for the operational cooling tower load to be reported along with the compliance sound levels. As the target sound levels become closer to ambient, it will be increasingly important to identify evaluation periods that have background sounds that are representative of the baseline conditions. This is important during the nighttime, which needs to be quiet and absent from ambient sources that would elevate the sound above the baseline 33 dBA. It will also be important during the daytime, when ambient intrusions from area daytime sources have the potential of dominating the measured sound levels. The measurement protocol addresses the appropriate test conditions for a direct measurement of Evergreen compliance per the DEC regulations.

In our many attended evaluations to date, the challenges include local insect activity, train activity at the Pan-Am facility and associated railways, roadway construction on Route 2 and stable atmospheric conditions that produce nonstandard propagation of distant sources. Only the insects can be effectively screened from the measured data. The other conditions must be screened by scheduling the measurements in their absence. The CTA report graphically illustrates the process for removing the influence from local insects from the high frequency parts of the measured spectrum. This is an appropriate procedure to simulate the low ambient conditions needed for these studies. The CTA analysis included the low frequency content that is addressed in the DEC regulations and has been a community concern.

The report also includes data from other Industrial and Community locations as illustrated in Figure 1. These include other Community locations and also Monitors R3, R2 R5 on the DREZ property between the Cold Spring Brook and the Evergreen equipment. While these measurements were not directly witnessed, the data were reviewed and is consistent with expectations based on their distance and orientation to Evergreen Sources and other recognized community sources of sound.

Thank you for the opportunity to review the Evergreen Solar study.

Sincerely,
Modeling Specialties,

A handwritten signature in black ink that reads "Douglas L. Sheadel". The signature is written in a cursive, slightly slanted style.

Douglas L. Sheadel
Principal Scientist