NEW JERSEY NOISE CONTROL COUNCIL MEETING
MAY 11, 2010
MINUTES

NCC ATTENDEES: J. Lepis (Chairman, Civil Engineer), A. Schmidt (Vice Chairman, Public Member-Registered Environmental Health Specialist), J. Feder (Secretary, Public Member-pending confirmation), R. Hauser (DOL, Member), C. Accettola (Public Member-pending confirmation), S. Szulecki (Public Member-pending confirmation, Ecologist), I. Udasin (Public Member-Medical Doctor), T. Pitcherello (Member-NJDCA), N. Dotti (Public Member), John Surmay (Public Member – Local Governing Body), Eric Zwerling (RTNAC), D. Triggs (NJDEP).

GUEST: John Hencken, Rutgers University Center for Advanced Infrastructure and Transportation, (CAIT)

I. ADMINISTRATIVE

Minutes of the March 9, 2010 and April 13, 2010 meetings were reviewed and approved with minor changes from the drafts. There was a brief discussion of the effort underway to reduce the number of state councils. Mssrs. Lepis, Dotti, Zwerling and Feder had separately written letters to various state officials explaining aspects of the role and operation of the NCC. Mssrs. Dotti and Feder received supportive responses from Mr. John Castner, Director of County Environmental and Waste Enforcement. Chairman Lepis announced that he attended the April 14, 2010 Clean Air Council meeting, but had to postpone his presentation on NCC activities until the fall because of lack of a suitable slot on the agenda.

II. GUEST: JOHN HENCKEN ON ROAD PAVEMENT RESEARCH

Mr. John Hencken, of the Rutgers University CAIT, at the request of NCC members, described his research to understand the effects of road pavement design choices on the sound levels produced as tires roll over the road. He described a measurement apparatus consisting of four microphones mounted at reference locations near the tire/road contact patch, and gave an outline of the scope of his research, which is still at an early stage. Understanding of factors that contribute to the sounds made by tires will facilitate the design of low noise pavements, possibly, in some cases, eliminating the need for highway noise barriers, which are both expensive and unsightly. Mr. Hencken provided a great deal of information on the details of pavement construction, materials, and surface texturing that affect sound. Mr. Hencken was given an open invitation to attend NCC meetings as a guest and was also invited to give a presentation on the results of his research as they become available.

III. WIND TURBINE POWER GENERATION

Mr. Dotti reported on his visit to the Ocean Gate wind turbine electric generator and provided measurement results obtained at two sites near the facility. There was insufficient wind to operate the wind turbine generator when Mr. Dotti originally arrived, but the wind subsequently picked up to about 6 MPH, measured at ground level, which was sufficient to operate the generator and obtain measurements for that wind speed. Expectedly, wind turbine sound levels are a function of wind speed, up to the point where the blades are “feathered” to prevent damage at high winds. The speed

at which feathering occurs for the Ocean Gate facility is not known. Mr. Dotti plotted his measurement results against data obtained from the National Aeronautics and Space Administration (NASA) on the perceptibility of low frequency vibration. He also showed on the plots, the N.J.A.C. 7:29 octave band limits for night noise, which go down to 31.5 HZ.

Mr. Dotti's measured sound levels were above the level of audibility. However, at 6 MPH wind speed, the measured noise levels were well below the N.J.A.C. 7:29 octave band night limits, although they did get closer at higher frequencies above 100 HZ. The overall A-weighted levels were also below the N.J.A.C. 7:29 night limits. It could not be determined whether the limits would be exceeded at higher wind speeds. From 8 – 40 HZ, including below audible frequencies, the sound levels were in the range that vibrations would be perceived in housing structural elements according to the NASA data. Very low frequencies around 10 HZ, while inaudible, can cause physical reactions in humans, likely because these frequencies are similar to the resonant frequencies of mass-spring systems accompanying the mounting of organs within the human body. At high sound levels, these frequencies are known to cause adverse reaction, including vomiting, and can cause regions of buildings to be unsuitable for human occupancy.

Mr. Dotti had attended an Acoustical Society talk on a wind generator "farm" of large generators in Texas, where the speaker expressed surprise that residential use would be allowed within 1000 feet of a wind generator. Fortunately, the Ocean Gate wind generator is a relatively small one and presumably creates less sound than the large generators.

Mr. Szulecki stated that solar panel electric generation, contrary to what might be expected, also produced sounds, due to the inverters required to convert output to alternating current.

Overall, the NCC expects to continue to build expertise on the acoustical aspects of non-fossil fuel power generation.

IV. ENGINE BRAKING

Mr. Triggs reported that the Road Noise Group was exploring the link to safety from engine braking and was looking for input from the NCC. Mr. Dotti reminded the NCC of the results of the earlier NCC project with the State Police which showed that enforcing Federal regulations on mufflers was sufficient to curb unusually loud engine braking sounds.

V. MODEL CODE

5.1 Allowing for Portions of the Model Ordinance to Be Optional

The Model Ordinance is offered to municipalities to provide guidance and hopefully provide a degree of uniformity in noise ordinances throughout the state. Municipalities are allowed to make changes to this model template, provided the result is not more lenient (they may be more stringent) than N.J.A.C 7:29. If municipalities make changes, they must get approval of their proposed ordinance from the Department of Environmental Protection (NJDEP). There was discussion of the Model Ordinance language regarding this, and it was decided to incorporate language up-front indicating the permissibility of modification and removal of provisions with NJDEP approval. It was also decided to insert language in specific sections, notably the sections on "Restricted Uses

and Activities" and "Motor Vehicles," indicating that provisions within these sections could be eliminated, and in cases of hourly restrictions, that the hours of application could be modified.

5.2 Purposeful Act - Minor vs. Non Minor Violation

At the previous meeting, NCC members had voted to adopt language declaring certain actions inherently "purposeful" or intentional. These would be "non-minor" and thereby not subject to "grace period" restrictions. However, as part of this, it was decided to get additional feedback from the NJDEP. Mr. Triggs agreed to pursue getting this feedback in written form from Ms. Debbie Pinto of the NJDEP.

5.3 C Scale Enforcement of Interior Sound Levels

As the group was wrapping up final issues, Chairman Lepis asked to revisit the limits for regulating interior sound via the C scale. This had been the subject of experiments at a previous meeting. Chairman Lepis questioned whether there should be a "floor" (for example 60 decibels), below which the provisions would not apply. He also asked to revisit the change threshold for comparison with background levels. Mr. Zwerling felt strongly that, due to differences in the environments at which sounds were encountered, that a fixed "one size fits all" threshold would have to be too high to offer protection in quieter environments. Mr. Zwerling felt that during the nighttime hours when people sleep, it was reasonable to restrict sounds from discretionary activities, such as television and music, to levels that maintained inaudibility within apartments in the vicinity. Based on the group's observations during earlier test sessions in which disco music was clearly audible and potentially disturbing while not measuring clearly above background, there was even question as to whether the 3 decibel change proposed by Mr. Zwerling was sufficiently protective. Mr. Dotti volunteered to circulate again via email the measurement results obtained during the earlier session for review by the group. Secretary Feder speculated that the poor ability to discriminate was likely due to the short duration of the "thump" in the disco music relative to the averaging time of the sound meter (~ 1 second for "slow' response setting), and that the "thump" while being quite audible, did not contribute much to the overall energy.

5.4 Wrapping Up Work on the Model Ordinance

Only a few "loose ends" remain with the Model Ordinance. Mr. Triggs will circulate a proposed final version for adoption vote at the next meeting, at which point it is hoped that remaining loose ends will be discussed and finalized.

VI. UPDATES TO THE STATE NOISE REGULATION N.J.A.C. 7:29

It is clear that there is insufficient time remaining before the "sunset" of the current version of N.J.A.C. 7:29 to allow for modification and the necessary public review and comment. It was decided to recommend that the current version of N.J.A.C. 7:29 be retained for the time being, but that the NCC begin work on necessary revisions to bring it up to date. There was some brief discussion of when provisions regulating facility noise can be applied to motor vehicles entering, leaving, and occupying the facility - specifically at what point can these sounds be considered part the facility, as opposed to road vehicles "passing by." It was agreed to defer further discussion on this until the NCC began work on the state noise ordinance.

VII. NEXT MEETING

The next scheduled meeting is on June 8, 2010.

Respectfully submitted:

Jerome Feder