NEW JERSEY NOISE CONTROL COUNCIL MEETING
MAY 10, 2011,
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), I. Udasin (Public Member-Medical Doctor), J. Kapferer (Public Member), C. Accettola (Public Member-pending confirmation), T. Pitcherello (Member-NJDCA), S. Szulecki (Public Member-pending confirmation, Ecologist), Eric Zwerling (RNTAC), D. Triggs (NJDEP).

I. ADMINISTRATIVE

Minutes of the April 12, 2011 meeting were reviewed and several corrections made to the draft. Mr. Zwerling stated that he would like to make some changes and will submit these to the group for review. The minutes were not voted on.

Mr. Triggs provided a review of the current NJDEP CEHA management. Mr. Wolf Skacel is Assistant Commissioner, Mr. John Castner is the Director, and Ms. Patricia Conti is the Bureau Chief.

II. N.J.A.C. 7:29 REFERENCE TO INDUSTRIAL, PUBLIC, AND COMMUNITY SERVICE SITES AS A "RECEPTOR" CATEGORY

Mr. Triggs provided an update on the status of attempts to remove industrial sites as a receptor category. This is an area where there is agreement on the need for change, but which is encountering difficulty with respect to implementation. At there previous meeting, there was discussion of having desired changes implemented using NJDEP "waiver" procedures, but this approach no longer being pursued, likely because waivers are intended to be case and site specific, which is inconsistent with the needed change. It was noted within the NJDEP that the NJAC 7:29 "Sunset" was actually seven years as opposed to five years, and that this change could still be implemented as a "Notice of Change," done in response to a comment, provided that the necessary actions could be completed within the next 10 months.

There then ensued a discussion of the details of making this change. Mr. Szulecki pointed out that NJAC 7:29 currently categorizes the facilities of interest – "commercial," "community service," "public service," and industrial in terms of function, nature of service provided, and who provides the service to whom. Mr. Szulecki felt that from a regulation standpoint, the nature of the activity conducted by the facility was a better determinant of the ability to withstand exposure to sound. Mr. Szulecki suggested that a good way to fix the problem would be to change some of the definitions of types of facilities to be more in line with the nature of activities conducted. NCC members present informally voiced support for this approach. Mr. Szulecki volunteered to develop and forward to the group via email a revised set of proposed facility definitions that would make noise exposure regulation more straightforward. There was concern that, while this approach might lead to the best fix to the problem, it might not be the smallest and simplest change. However, it was informally decided to pursue Mr. Szulecki's approach to the extent of formulating a proposal, which could then be reviewed for feasibility of implementation as a "Notice of Change."

III. WIND ELECTRICITY GENERATION

Mr. Zwerling reported having been approached by the State Agriculture Development Committee (SADC) for help in developing standards for regulating wind turbine sound emissions. Work would consist of performing a literature search and developing reasonable standards for regulating sound emissions that would protect the public while not unduly impeding wind turbine electric generation. After discussions with the SADC, it was decided that the best approach would be for SADC to fund this work via a grant to Rutgers University.

Discussion moved to a related topic, the Bill S2374 introduced by Senator Kean. The NCC had previously offered comments to Senator Kean's office regarding this Bill. Chairman Lepis agreed to follow up with Senator Kean's office to ascertain the status of this proposed legislation. Mr. Zwerling provided some informal calculations of the acreage that would be required for a wind turbine facility using the 2000 foot limits originally cited in S2374. These were high enough to constitute a substantial impediment to wind electric generation. It was not known whether S2374 had been modified in response to previous comments from the NCC that it might be possible to reduce the 2000 foot limits without compromising the protective aspects of the Bill.

Mr. Zwerling and Mr. Szulecki reported that their consulting firm had been involved in a number of recent investigations of noise impacts of proposals for wind and solar electric generation.

IV. REGULATION OF AMPLIFIED MUSIC

As a continuation of the discussion from the April 12, 2011 meeting regarding guidance to be given to noise control officers in regulating amplified music, Chairman Lepis distributed copies of noise measurements versus time initially measured by Mr. Dotti about a year earlier, when the NCC had experimented with criteria for measuring and regulating indoor amplified sound. The charts distributed showed measurements of sound using "slow" and "fast" meter weighting using "A" and "Z" frequency weighting. ("Z" weighting is similar to "C" weighting, but is "flat" to a lower frequency.) The distributed charts showed sound versus time over a number of minutes, presumably as the level of the amplified music was varied. There were also intervals lasting a number of seconds, where the levels were substantially lower. Unfortunately, Mr. Dotti was not present to provide details of the measurements, so only some general conclusions could be reached. Chairman Lepis pointed out that the "Z" weighted (as a proxy for "C" weighted) sound levels were typically 20 – 25 decibels higher than the "A" weighted levels.

Chairman Lepis felt that use of "C" weighting in the regulation already penalizes amplified music sound emissions, and thus it was reasonable to use the lowest sound level measured during an interval, rather than the maximum, in computing the impact of "sound on" versus "sound off" condition.

Mr. Zwerling disagreed. The music affects the ability for building occupants to sleep at night. If the music became quiet for an interval of time, this does not alter the affects on sleep during frequent louder passages lasting many seconds. Using the lower level thus defeats the purpose of the

regulation. Mr. Zwerling recalled that the consensus during the earlier experimentation was that the levels trialed were quite disturbing and would be broadly regarded as unacceptable. In response to Chairman Lepis concerns regarding not wanting to have an unmeetable regulation, Mr. Zwerling reported on recent work by his consulting firm to address nuisances caused by bars in Hoboken, NJ. This work was done in response to requirements by the NJ Liquor Authority that establishments with liquor licenses not cause a nuisance. Existence of residents complaining about noise was deemed sufficient to establish presence of a nuisance. In this work, using a variety of methods including modifications to both building and sound systems, Mr.Zwerling's firm was able to reduce sound in complainant's dwelling to inaudibility, or at worst, in infrequent cases, at a level that the complainant regarded as no longer a nuisance. Mr. Zwerling asserted that the criterion of inaudibility is far more stringent than any criterion used in the Model Ordinance. Mr. Zwerling further asserted that he had worked with a number of localities throughout the United States and that the criterion of 6 decibels day, 3 decibels night, using maximum measured levels "*worked,*" in that it proved to be both achievable, protective, and to represent a reasonable compromise between the needs to make noise and concerns of people bothered by noise.

To help resolve the issue and potentially alleviate Chairman Lepis' concerns, Chairman Lepis was allowed to borrow a sound meter that would allow him to personally experiment to explore the reasonableness and protectiveness of the regulation using different measurement guidelines.

4.1 Technical Aspects of Measuring and Regulating Indoor Amplified Music

As part of the prior discussion Mr. Zwerling fetched a sound meter and instructed the group to be silent. He then conducted an quick informal measurement of the sounds in the meeting room and found that the background levels were approximately 42 DBA and 58 – 59 DBC, thereby establishing that for the background sounds in the room there was a 16 – 17 decibel difference in the numeric measurements between "A" and "C" weighted scales. While there were audible background sounds in the meeting room, these sounds were not at all intrusive, yet the measured C level was relatively high.

As review, the Model Ordinance incorporates the following features for identifying problematic situations.

1. *Comparing measured levels to background sound levels*. Original reports by the US Environmental Protection Agency Noise Office in the 1970's established that that the intrusiveness of sounds depended heavily on other background sounds present. Proposals at the time included adjustments in measured levels to account for the presence of background sounds. Thus, use of sound level differences in defining a violation, as is done in the Model Ordinance, has basis in prior research and history.

2. *Use of "C" Weighting Rather than "A" Weighting*: The objectionable "thump" in amplified music is heavily constituted with low frequency sounds, which are deemphasized in "A" weighting. Low frequency sounds are also more readily transmitted through structures. Thus, removal of this deemphasis should help identify problematic situations. However, as a possible area for NCC work going forward, Mr. Zwerling's experiment demonstrated that relatively inaudible background sounds could contribute heavily to the background measured numbers used as a comparison in (1). This raises a concern as to whether there

might be situations in which presence of strong background low frequency sounds might impede ability to identify problem situations using the C scale. Mr. Dotti's data from the earlier NCC experiments, in which significant background low frequency sounds were present, did provide an indication that identifying problem situations using the C scale when significant low frequency steady background sounds were present might pose a problem. Addressing this issues is a possible area for future work by the NCC.

3. *Use of "Fast" Rather Than "Slow" Meter Time Averaging*: Mr. Dotti's data showed that the "fast" measurements "jumped around" far more than the "slow" measurements. However, the granularity of the plots was on the order of 1 second, so it is likely that some time averaging was present even in the "fast" meter measurements. Given differences between digital and analog meters and difficulties in reading and interpreting the fast reading data, additional work by the NCC may be needed to refine the guidance provided to noise enforcement officers in dealing with amplified music.

Expectation is that discussion of this topic will be continued at a future meeting.

V. NEXT MEETING

The next scheduled meeting is on June 14, 2011.

Respectfully submitted:

Jerome Feder