

ILLINOIS POLLUTION CONTROL BOARD
August 22, 1991

VILLAGE OF MATTESON,)
)
 Complainant,)
)
 v.) PCB 90-146
) (Enforcement)
)
 WORLD MUSIC THEATRE,)
)
 JAM PRODUCTIONS, LTD.,)
)
 DISCOVERY SOUTH GROUP, LTD.,)
)
 and GIERCZYK DEVELOPMENT, INC.,)
)
 Respondents.)

ORDER OF THE BOARD (by B. Forcade):

On July 22, 1991, the Village of Matteson filed a Petition for Interim Relief. That Petition asserted various continuing nuisance and numerical sound violations and noted an instantaneous radio feedback loop between the sound monitoring technicians and the World Music Theatre. In response to that motion the Board Order of July 25, 1991, stated:

Because of the dispute that has arisen regarding the legitimacy of the data being collected, the Board will require World Music Theatre to ensure that all raw uncorrected data acquired in this monitoring effort be preserved and that copies of such raw data be provided to Matteson and included in the final report...

On August 6, 1991, the final report was filed with the Board. By Order of August 8, 1991, the Board stated:

The Board will allow the Theatre until August 20, 1991 to provide copies of the one-hour Leq spectra (which must include instantaneous values prior to any correction or averaging over time), the log of time and content of any conversation, and any actions taken by Theatre as a result.

On August 20, 1991, Theatre filed a response to the Board Order which included an Addendum to the World Music Theatre Final Report prepared by the Sound consultant EISA. That addendum states, "No instantaneous spectrum levels were collected nor was this data subjected to any post-process averaging or manipulation." The Board finds this failure to acquire and maintain instantaneous spectrum levels disturbing.

Theatre has stated in the final report that:

The Leq, or equivalent sound pressure level (SPL) based on time averaged energy or intensity, can be a very useful environmental metric. However, the one-hour measurement period stipulated in Section 900.103 proved to be unrealistically long for the conditions encountered at these measurement sites. Averaged over an hour, sound energy emitted from the Theatre tended to become "submerged" in the time-averaged ambient sound energy.
Final Report p. 5

Theatre has also stated, "...we observed the sound emitted from Theatre to change from totally inaudible to clearly audible, to totally inaudible again in a matter of 10 or 15 minutes." (Final Report, p.9). Clearly this type of information is essential for informed decision making on sound impacts during monitoring. Yet, it was not provided to the Board.

It would thus appear the failure to acquire and maintain instantaneous values for future averaging has, by Theatre's own admission, resulted in the submission of unrealistic data where the sound energy from Theatre is submerged in the single time-averaged value submitted to the Board. The Board notes that Theatre's reference to a "one-hour measurement" period is incorrect. Section 900.103 provides for measurement of sound, "...based on Leq averaging, as defined in 35 Ill. Adm. code 900.101, using a reference time of one hour." It is the time period for data averaging which is specified as one-hour.

As recited in Section 3.1.5 of the ISO document quoted in the Board Opinion adopting the one-hour Leq:

If the noise varies with time in a more complicated manner than is appropriate for the use of Table 1, the equivalent sound level Leq should be obtained, for example from a statistical analysis of the time history of the A-weighted sound level.

R83-7, Opinion at p. 12 (January 22, 1987)

Here, Theatre's measurements have failed to acquire and maintain this time history of sound levels for each octave band.

The Board today Orders Theatre to immediately ensure that all sound measurements acquire, maintain, and preserve a complete time history of the sound levels during each monitoring period, for each octave band (i.e., a time-varying sound level or Leq Spectra). This data shall be preserved and copies conveyed to the Board and to Matteson on a weekly basis. Also, the

monitoring process shall record sufficient narrative information to allow the Board to determine whether sound from Theatre is inaudible, audible, clearly audible, etc.

The Board requests that the data collected on July 19, 1991, "measured ambient all evening", be provided to the Board.

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Order was adopted on the 22ND day of August, 1991, by a vote of 7-0.

Dorothy M. Gunn / s.s.
Dorothy M. Gunn, Clerk
Illinois Pollution Control Board