

Ad Hoc Race-Track Committee Minutes
December 1, 2011
8th Meeting

1. Attendees: LaCourse (chair), Murch, Lelio (recorder), Collins, Kahn, Cedarholm, Loureiro, and 3 representatives from Lee USA Speedway: Red and Judy MacDonald (current principals), and Russ Conway (former principal)
2. LaCourse opened the meeting by thanking the Ad Hoc team for the data collection efforts this past racing season. He asked Lelio to present a summary of the sound data set collected thru October 23, 2011. Most of the discussion on the sound data set centered on how and where measurements were taken. Lelio stated that measurements were primarily taken at 3 locations, which he pointed to on maps: a survey pin in the Tamarack Green Common area, a survey pin on the Lee USA/Tamarack property line, and a location in the track facility 100 feet from the racing track surface, perpendicular to the exit of turn 4. Lelio further stated that the property line survey pin location was a difficult location to access (due to steep grading) and sound measurements at that location might not be representative of all locations along the property line because that particular survey pin is approximately 20 feet below the grade of the track surface.
3. Conway stated that based on his extensive racetrack experience, he is sure that there are other ways that could be considered to reduce exhaust noise that Lee USA Speedway has not considered, including modifying tailpipe exhaust angles to direct the noise downwards.
4. LaCourse explained that the goal of the committee was and is to recommend new Section 21A language which will make racing noise level maximums enforceable by the Town. He welcomed any and all efforts by Lee USA Speedway personnel to reduce exhaust noise. He explained the rationale behind enforcing exhaust standards at the property line, citing other examples of legislation which use the property line as a point of demarcation (racetrack ordinances, wind turbine ordinances, related noise abatement studies). He also noted that due to the lack of transmissions in some racing divisions, it is impossible to measure exhaust noise at each individual car exhaust pipe.
5. LaCourse read the proposed rewrite of section 21A of the Lee Racing Ordinance into the meeting minutes: **Sound levels resulting from any activities at the racetrack operation shall not exceed 97.0 decibels using the A scale (dBA), and Fast Response setting. Sound levels**

shall be measured at any racetrack property line. Measurements shall be taken using a properly calibrated, tripod mounted sound meter pointed directly towards the racing track surface. Any sound measurement that exceeds 97.0 dBA, regardless of the duration, shall be a violation. LaCourse advised the group that any penalty language for violations would be addressed separately by the Select Board, and would not be discussed at the Ad Hoc meeting. He further advised that the Town does not intend to penalize a racetrack for violations during the 2012 racing season, but would instead expect the track to use this period to meet the exhaust noise measurement standard.

6. Collins suggested that a specification be added to the rewrite language delineating the distance that the sound meter be mounted from the ground. Lelio suggested mounting the meter 36 inches off the ground, as that was the standard used for the measurements that he recorded this year. Group agreed.
7. Conway stated he will call his friend at Paris Speedway to find out how they measure exhaust noise.
8. R MacDonald asked why there was an effort now to enforce 97 dB noise standards. Collins stated that although a 97 dB maximum is currently in the Lee Racing Ordinance, there is no specific information on where or how exhaust noise is to be measured, and so that is what the committee is trying to correct. Conway stated that wind and vegetation affect noise levels. Collins agreed but stated that vegetation only deflects high frequencies, and low frequencies are the ones that travel long distances. R MacDonald stated that NH law allows motorcycles to run 106 dB. Murch explained that the NH motorcycle exhaust noise standard is a tail pipe measurement, and that if he were to measure exhaust noise at racecar tail pipes, those readings would be louder than 106 dB.
9. J MacDonald asked if there would be exceptions to the 97 dB rule for the louder racing divisions. R MacDonald stated that they need those races to bring in fans and balance the books, as the weekly series races do not cover costs. He contrasted Epping's approach to regulating racetracks with Lee's approach (more venues allowed, no noise restrictions). General discussion ensued regarding property rights of racetracks vs property rights of other property owners in Lee. LaCourse steered discussion back to the original committee mandate, stating that the racetrack noise regulations in Lee already exist, they have been in the Ordinance since 1989, and this committee's charge is only to rewrite the language to make those regulations enforceable. LaCourse asked the MacDonalds how many racing event dates would need exemptions from a 97 dB rule. Kahn stated

her opposition to having more than one maximum noise standard, as it would not be in keeping with the existing single noise standard that is already in the Ordinance. R MacDonald stated, you people never had a problem with the noise at the speedway until we wanted to go Saturday nights. Lelio responded, yes I agree that really got peoples' attention.

10. Conway asked which of the abutting houses was closest to Lee USA Speedway. No one was sure whether the closest house was in the Tamarack development or just across route 125 from the track. Conway stated that if measurements are taken, they should be taken on abutting properties, not on the property line. He suggested that measurements could be taken at a picnic table near the fire pond in the Tamarack Rd development.
11. Conway stated that if Lee USA Speedway were required to meet 97 dB at the property line for all races, it would go out of business, because the touring divisions would not be able to race there. Lelio stated that the proposed property line measurement standard does not prevent any racing division from racing at Lee. He suggested that the track might have to investigate sound mitigation barriers in order for the loudest cars to meet the standard. Conway reiterated that Lee USA Speedway would go out of business if the 97 dB standard were enforced for those touring divisions that are the loudest. He stated the MacDonalds have always tried to work with the Town over this issue. Conway stated that he had heard enough from this meeting, and that he was leaving. He suggested that the MacDonalds sue the Town in Federal Court. Conway then left the meeting. LaCourse thanked him for his participation and contributions.
12. R MacDonald again asked why measurements should be taken at the property line instead of on abutting properties. J MacDonald asked why there weren't any measurements taken at abutters' homes. Lelio stated that the committee decided early on where to take measurements, and they centered primarily on the locations described above. Cedarholm pointed out that the committee began to gather sound data specifically to help determine the original intent of the 97 dB standard, and it quickly became clear that the 97 dB standard wasn't designed to be applied to abutter's home sites. Loureiro stated that measurement of sound at the property line was consistent with most Land Use legislation in NH. LaCourse cited water runoff and wind turbine noise regulations as additional Land Use legislative examples.
13. R MacDonald stated that although they can regulate exhaust pipe placement and muffler rules for the weekly racing divisions, the Speedway has little control over the large touring divisions. He gave an example of

the ACT series, a 50 car racing event occurring early in the season. These cars run exhaust pipes thru their side doors, an arrangement that is not conducive to limiting exhaust noise. Lelio suggested sound mitigation barriers might help with those events. R MacDonald asked if measurements would be taken at one specific point on the property line, and if so he could build a barrier there. Lelio stated that noise coming from the south and east sides of the Lee USA Speedway seem to have the most impact on Lee residents, and insisted that any point on the property line be a potential measurement location. LaCourse stated that it would be up to Chief Murch to determine the various locations for property line measurements during enforcement.

14. LaCourse suggested there was sufficient consensus on the committee to move forward with proposing the new language to the Select Board, as follows: **Sound levels resulting from any activities at the racetrack operation shall not exceed 97.0 decibels using the A scale (dBA), and Fast Response setting. Sound levels shall be measured at any racetrack property line. Measurements shall be taken using a properly calibrated sound meter which is mounted 36 inches above the ground on a tripod, and pointed directly towards the racing track surface. Any sound measurement that exceeds 97.0 dBA, regardless of the duration, shall be a violation.** LaCourse again reiterated that any discussion of penalties would occur solely at the Select Board level.

15. Lelio asked if this new language would go the deliberative body for vote in March 2012. LaCourse confirmed that was correct. Murch then suggested that there might be an alternative approach: since this is not a zoning change, the Select Board may actually be able to implement this new language without going to the deliberative body. Murch will confirm whether this approach is in fact possible. In either case, LaCourse will present new language to Select Board at their next regularly scheduled meeting. LaCourse thanked the attendees for their participation.

Ad Hoc Race-Track Committee Minutes
September 8, 2011
7th Meeting

1. Attendees: LaCourse, Watson, Murch, Lelio, Hoyt, Collins, Kahn, Cedarholm
2. Lelio presented data collected through August 26, 2011. Loudest regular weekly division has been Small Block Super Modifieds. Loudest touring divisions to date have been NEMA Midgets, Large Block Super Modifieds, and PASS division Super Late Model and Super Modified classes.
3. LaCourse thanked the data collectors, and stated that committee probably now has sufficient data to understand noise levels during racing. He suggested it is now time to propose a rewrite of Section 21A of the Lee Racing Ordinance in order to make it more enforceable. To that end, he proposed for discussion purposes only the following language: "No event shall be allowed to continue when the average maximum noise level is above 97 dB when measured 100 feet from the outside edge of the track surface during anytime during the event." LaCourse mentioned that since not all cars can be measured statically due to transmission designs, it would be better to propose on-track measurements at a specified distance. Group agreed. Lelio stated that he supported LaCourse's language because it preserves the <97 dB threshold already written in to the ordinance. Lelio also read from minutes of 1989 Town Meeting, noting that the original intent of Section 21A of the Ordinance was to respond to an increase in loud racing divisions that were coming in to race at Lee USA Speedway.
4. Watson stated that former Chief Burke used to measure sound 100' over the property line (on abutter's property), and he thinks this is a better place to enforce the standard.
5. Watson said the track is considering only running 12 weekly events for next year, and 5 special events, down from the regular 23. Watson said they must run 16 weekly events to retain WHALEN sanction, but they are considering doubling up events on some nights. Watson would like max noise thresholds exceptions to LaCourse's language for special touring events, including Large Block Supers. Kahn did not support providing noise threshold exceptions, and stated that any rewrite of Section 21A should include one threshold for all racing divisions. Group reviewed data and identified five divisions that might not reach a max 97 dB threshold: Small Block Supers, Large Block Supers, NEMA Midgets, PASS Super Late and PASS Super Modifieds.
6. LaCourse submitted revised language for discussion purposes: "No event shall be allowed to continue when the average maximum noise level is above 97 dB when measured 100 feet from the outside edge of the track surface during anytime during the event except for five (5) identified events where the average maximum noise level shall not exceed 102 dB."

- Group was split on whether having two thresholds was keeping in spirit with the original Section 21A language.
7. The topic of enforcement was raised. Collins suggested that track be shut down when max thresholds were violated. Watson was concerned about public safety in the event that the track was shut down due to noise violations. Murch suggested that levying fines would be a sufficient deterrent when violations occurred.
 8. Watson stated that it cost the track \$21,000 to open the facility for a racing event, which is why the track is considering fewer events next season. Watson also provided LaCourse with information on racing schools that the track would like to run in the future.
 9. LaCourse and Murch will work on additional Section 21A rewrite language for the group to review prior to the next meeting. LaCourse will schedule the next meeting date and advise the group.
 10. Cedarholm stated that a sound containment barrier on the south end of the track property might contain much of the exhaust noise and allow the track to continue hosting the louder racing divisions. Watson agreed that the track could provide a barrier, and that it probably would help with noise spillover.

**Ad Hoc Race-Track Committee Minutes
June 8, 2011
6th Meeting**

1. Attendees: LaCourse, Murch, Collins, Kahn, Lelio, Watson, Cedarholm
2. LaCourse distributed meeting minutes which included sound data sets thru May 13 2011. The first two pages of data were collected on the Lee USA Speedway/Tamarack property line, the second two pages of data were collected at a survey pin in Tamarack Green Area.
3. Group reviewed the sound data. Collins suggested that group review standard deviation of the data sets in the future.
4. Lelio indicated that there were still some holes in the data set that he and Cedarholm have been building, most notably concerning special touring divisions (Prostocks, Large Block Super). He also noted that it would be good to have additional data for all divisions once the tree canopy has fully leafed out. Collins noted that vegetation would probably have an increased attenuating affect on high rather than low frequency sound waves.
5. Murch presented police dept data, taken at 100' and at the tail pipe. His data set also included the first Prostock sound measurements of the season. Murch explained that the LPD gave out two warnings to owners/drivers of cars that were not properly muffled. He also mentioned

- that it only takes one or two cars that are improperly muffled to significantly increase noise levels in any particular heat or race.
6. Group discussed feasibility of taking simultaneous measurements at tail pipe, 100' away, and at the Tamarack area green pin. Group felt this might be difficult due to other track noise that is present when measuring tail pipe output, but agreed to try. Group wondered why ACT and SMS racing divisions did not register the same noise levels at the Tamarack Green Area pin, as the car engines and exhaust manifolds are very similar. Murch pointed out that each division does run different mufflers.
 7. Cedarholm asked about tail pipe measurements for SMS cars. Murch and Watson pointed out that since these cars do not have starter motors and must be push started, static readings are not possible. Watson noted that NEMA (new england midget association) and Big Block Super Mods also present this same problem. Group discussed this issue as it relates to the J1169 tail pipe measurement procedure.
 8. Next meeting is scheduled for Sept 8 2011, 7 pm. Data collection at all locations will continue in the meantime.

Ad Hoc Race-Track Committee Minutes
April 27, 2011
5th Meeting

1. Attendees: Collins, LaCourse, Cedarholm, Murch, Watson, Lelio
2. Lelio thanked LaCourse for posting the committee minutes on Town website. LaCourse stated his view that although this ad hoc committee is a closed meeting in that it is not open to public comment, it is open to any members of the public who would like to attend and observe.
3. Group reviewed sound data collected by Lelio and Murch on 4/17/11. Two observations were raised: Murch and LaCourse stated that based on the tailpipe sound data that was recorded on 4/17/11, the 97 dB limit as measured at the tailpipe seems to be an unrealistic standard that the racing teams will not be able to meet. Lelio stated that 76 dB average readings taken in Tamarack during racing on the same day indicate the presence of a serious noise issue (100x louder than the target), given the ad hoc committee's initial goal of ensuring noise levels in abutting neighborhoods during racing match WHO's 55 dB residential neighborhood maximum standards.
4. Group discussed whether future measurements should continue to be taken at the tailpipe using the J1169 standard. Group decided to continue using the J1169 measurement procedure because it is a nationally recognized measurement procedure for automobiles, it facilitates repeatable measurement conditions, and the procedure helps to identify specific cars which fail to meet exhaust noise standards.

5. Murch stated that he and his team will have to wear hearing protection for future tailpipe measurements. Lelio indicated that per OSHA, permanent hearing damage occurs after 14 seconds of exposure to 118 dB levels, the highest sound readings measured on 4/17/11.
6. Collins asked whether Murch inspects vehicle mufflers at the tailpipe measurement station, and LaCourse asked whether one can visually inspect and identify the particular mufflers that each car is running. Murch replied that he does inspect mufflers by looking under the car. Collins suggested that if mufflers can be identified, that info should also be included in the data field.
7. Collins suggested that group make an attempt to coordinate on track and abutting property measurements, so that abutting property measurements are also accompanied with the following additional information: racing division that is currently on track, and number of cars that are currently operating on track. He also suggested that we take some simultaneous tail pipe and abutting property sound measurements on various racing division cars, using radios to coordinate between the measurement stations. Collins asked about the weather data on Lelio sample set- per Lelio this information came from the NOAA Nottingham website. Lelio will confirm whether wind direction means that wind is coming from that direction, or blowing in that direction.
8. LaCourse asked group to continue to take tail pipe and abutting measurements, with the goal of getting sound data on all car divisions, including all weekly and special touring divisions. Lelio suggested that abutting property sound data be gathered on Test and Tune days, too.
9. LaCourse stated that as the season progresses, he expects measurements to show sound levels decreasing as steps are taken by racing teams (better mufflers, etc.). Watson also suggested that racing teams will get better at adhering to the sound standards as the season progresses.
10. Lelio asked Murch if there were any other issues he found with using the J1169 measurement procedure. Murch replied that the biggest obstacle was that drivers were nervous about having their cars measured, and so were reluctant to rev their engines to the required 3/4 max RPM. He plans to ask a second officer to watch each car's RPM tach during future measurements in order to insure cars are measured at proper RPM levels. Watson concurred with this procedure.
11. Murch told group that as he gathers future sound data, he will send it out to the committee via email.
12. Watson invited the group to visit the track to see how sound data is collected, and view track operations. In response to a question by Cedarholm, Watson explained the free admission policy for Lee residents to the group.
13. Next meeting is Wednesday, June 8th, 7 pm at the Town Hall.

**Ad Hoc Race-Track Committee Minutes
March 31, 2011 Meeting (Modified April 18, 2011)
4th Meeting**

- The Committee agreed upon the protocol submitted by Chief Murch with minor modifications. The protocol for measurement is provided below in its entirety.
*“No person shall operate a motor vehicle on the racing surface which has a measured noise level of more than 97 decibels on the decibel meter on the A scale when measured 20 inches from the exhaust pipe at a 45 degree angle and at a height of 8 inches off the ground while the engine is operating at 75% of its maximum rated revolutions per minute (RPMs).
Measurements shall be taken in accordance with the Society of Automotive Engineers specification SAE J1169 Surface Vehicle Standards.
Vehicles found to be in violation of the above stated provision will not be allowed on the racing surface until such time as a properly equipped muffler has been installed, the vehicle has been retested and the vehicle is found to meet the 97-decibel limit in accordance with this provision.”*
- The Committee also agreed that the test will be done on the similar surface as the racing surface and at a specified area outlined for vehicle entry. A sound meter on a tripod would be stationed at the proper distance to make the measurement.
- The Committee recommended that addition sound meters be purchased to be used at the Chief’s discretion for measuring sound at identified areas at trackside and/or on abutters’ property.
- The Committee agreed that this protocol would start with the upcoming 2011 racing season.
- Be it known that the intent of testing during this racing season is to gather data such as abutter sound intensities at the same time as vehicle testing, abutter sound intensities during races, sound intensities at identified sites for yearly comparisons.
- Be it known that Chief Murch has full discretion as to the time, dates and the number of measurements with the proviso that enough data recordings are made to establish a baseline.
- Next Meeting: April 27, Town Hall, 7 PM.

**January 31, 2011
3rd Meeting**

- Committee decided to adopt the 55 dB noise threshold as an initial goal for noise levels at residential properties abutting the racetrack during racing sessions.
- Chief Murch recommended that exhaust sound testing of individual cars be done in the ramp area just prior to the “bridge”.

Ad Hoc Race-Track Committee Minutes March 31, 2011 (Modified April 18, 2011)

- Chief Murch said that he is initially planning to document all conversations with racing teams regarding muffler sound readings.
- Robin suggested that the Town purchase 2-3 more sound meters and secure volunteers who might be willing to take sound readings at abutting properties during races.
- Next steps:
 - Chief Murch will draft a procedure for measuring individual race vehicle exhaust noise.
 - Andy will ask Allan Dennis to help make copies of the racetrack site maps for committee members.
 - Andy will work with Dave to verify distances from the track surface to abutting property lines.
- Next meeting: February 14, 2011 7 pm Town Hall

January 17, 2011 2nd Meeting

- The Committee decided that measurement at the boundary lines were most likely not a valid means for enforcement of 21A. Members learned that dB readings were affected by a variety of physical conditions such as humidity and wind direction. As a result the Committee will now focus on measurement at the tailpipe.
- Discussion was held on different mufflers and exhaust pipe arrangements.
- Methods for reducing noise in general were discussed. Some options included sheathing the stands, requiring tailpipes to exhaust down at the track, and modifying the PA system.
- Conditional agreement among committee members included the following. 1) The next racing season will be a transitional season in that measurements will be made at the boundary lines and at certain identified residences to determine db ranges. 2) Measurements will be made at the tailpipe with detailed instructions for measurement so that the Chief of Police can implement 21A. 3) The Committee will work as an oversight committee throughout the racing season to bring forth a modified ordinance for the 2012 legislative meeting. 4) The goal is to determine a dB reading at the tailpipe that brings the noise at the boundary lines and at residences more acceptable to abutters and allows a mutually beneficial racing season for all concerned. 5) And finally, measurements should be made at benchmark stations at the boundary lines every year and kept for yearly comparisons.
- *Action Items:* The Committee will look into mufflers and tailpipe arrangements that reduce noise and existing law that speaks to measurement.
- Next Meeting: January 31, 2011, 7 PM, Town Hall

January 3, 2011

1st Meeting: Organizational Meeting

Ad Hoc Race-Track Committee Minutes March 31, 2011 (Modified April 18, 2011)

- Reviewed Committee Charge, Racetrack Ordinance, Noise Ordinance, and Superior Court Agreement
- Discussed BOS Recommendations: Do not rewrite entire ordinance, Focus on area 21A, Use as a "Guide Small Wind Energy Systems Ordinance"
- Established next meeting date: January 17, 2011 at 7 PM
- Action Items: After discussion the committee decided to study two areas of measurement for enforcement, at the tail pipe and at the boundary lines. LaCourse and Collins focused on the boundary lines and Lelio and Loureiro focused on the tail pipe. Chief Murch was assigned to study the impact of these measurement areas on implementing 21A.