

Billy Bishop Toronto City Airport

Noise Management Sub Committee Meeting 7 -Summary

July 24th, 2019
7 pm - 9:30 pm

Billy Bishop Airport Boardroom
(Mainland Passenger Transfer Facility, above Aroma Café)

PARTICIPANTS

Hal Beck – Co-Chair (York Quay Neighbourhood Association)
Angela Homewood – Co-Chair (PortsToronto)
Bryan Bowen (City of Toronto, City Planning - Waterfront Secretariat)
Wayne Christian (York Quay Neighbourhood Association)
Lesley Monette (Bathurst Quay Neighbourhood Association)
Max Moore (Bathurst Quay Neighbourhood Association)
Alex Lavasidis (Lura Consulting - Notetaker)
Michael David (PortsToronto- Project Manager for Noise Study)
Header Merza (Senior Noise Engineer - Ministry of Environment, Conservation and Parks(MECP))

OBSERVERS

WSP, RWDI, Burnside, Golder, Dillon, Aecom, Stantec

MEETING FORMAT

Header Merza, Senior Noise Engineer at the Ministry of Environment, Conservation and Parks, attended this NMSC meeting to provide context and clarity regarding NPC-300 and provincial authority and regulations surrounding noise. Mr. Merza provided a presentation to the NMSC members, entitled *Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning Publication NPC-300*. This presentation is available in Appendix A. Noise Management Sub Committee (NMSC) members posed questions of clarification and technical questions both during and following the presentation. The following provides a summary of discussion at Noise Management Sub Committee Meeting 6. This is not a verbatim account of the discussion. This summary is organized by presentation slide, so that the context of the discussion can be easily referenced in Appendix A.

Representatives from consulting firms bidding on the PortsToronto Noise Study were invited to attend this NMSC meeting as observers, to gain an understanding of community members' noise concerns. In total, seven consultants attended the meeting as observers.

SUMMARY

This summary should be read in conjunction with the presentation slides provided in Appendix A.

Slide 2:

- Hal inquired if there is also an annex document related to LU-131.
- Mr. Merza responded that the annex is considered part of LU-131. He noted that NPC-205 also has an annex. All 4 documents listed on slide 2 are separate, stand-alone documents. The Ministry has the document available in HTML format and can be provided in a PDF format upon request.

Slide 5:

- The Ministry has no authority under the Planning Act and no direct input into the land use planning process. Mr. Merza noted that the Ministry used to have a role in land use planning prior to 1997. The Ministry was required to review and sign off for some planning approvals, but this is no longer required.

Slide 6:

- There are various, separate guidance documents available regarding each of the listed sound sources (not included in NPC-300). These documents can be shared with the NMSC upon request. *Post meeting note: Excerpts from NPC 101, 102, 104, 205, and 233 were distributed to the sub-committee members by Hal Beck, following the meeting.*

Slide 7:

- Mr. Merza noted that “rooftop/temporary” acoustic barriers are a new concept NPC-300.
- Mr. Merza noted that “agreements for noise mitigation”, apply only to Class 4 lands. Other classes of lands can have an agreement for noise mitigation, but as far as Class 1, 2, and 3 lands are concerned, the only controls the Ministry recognizes are the controls placed at the noise source, not at receptor. There may however, be an agreement to share the cost, maintenance etc. of the noise controls on Class 1, 2, and 3 lands, but the Ministry does not require to review that agreement because the land is not Class 4.

Slide 8:

- Bryan inquired how it is determined if noise mitigation should occur at the source or the point of reception.
- Mr. Merza responded that point of reception controls are only permitted in Class 4 areas, and that if there is a Class 1, 2, or 3 area, these lands cannot be reclassified as Class 4. Once a land use is established in an area (e.g. homes are built in a Class 1, 2, or 3 area), it can only be reclassified a Class 4 area if there is replacement, *redevelopment or re-building* of the property. Therefore, Class 4 is representative of *encroaching* high-density land uses in areas where the new type of development would previously not have been permitted.

Slide 9:

- Mr. Merza explained “background sound level” (or “ambient sound level”) could, as an example, be considered any noise other than the airport noise, if what one is assessing is the airport noise. “Urban hum” can also be considered part of the background sound level.
- (regarding bullet 3) Mr. Merza explained that if there are multiple industries with proper approvals, and they are not subject to any noise abatement plans by the Ministry or the municipality, they can be considered part of the ambient or background sound levels in the assessment of another stationary source. This is very rarely done but is possible.
- Bryan inquired if the noise from airport-generated traffic is considered background sound level.
- Mr. Merza responded that the vehicular movement is considered part of the operation of the airport if it occurs on airport lands and is therefore not considered part of the background sound level. Once the vehicles are on public roads, vehicular traffic noise generated is considered part of the background sound level.

- (regarding bullet 5) There are specific conditions listed in NPC-300 section A5 (page 7) under definitions for including train noise in background sound level (e.g. X number of trains per day, X number at night). These mainly apply to already busy railway lines.

Slide 10:

- Mr. Merza explained that typically, Class 1 areas can be thought of as urban, with sound predominantly being man made, both day and night. Class 2 is an area where daytime sound is dominated by manmade noise and nighttime sound is dominated by natural sounds. Class 3 areas are dominated by natural sounds day and night.

Slide 12:

- Mr. Merza explained that Class 4 is a new classification, being introduced for the first time through this guideline. Class 3 areas cannot become Class 4 areas; only areas that are urban (Class 1 or 2) have the potential to become Class 4 areas.
- Mr. Merza noted that there are examples in the City of Toronto of Class 4 areas along Lakeshore, where the City provided the Ministry with a letter designating the area as a Class 4 area. This letter can be provided upon request.
- Hal inquired if an area that is reclassified as a Class 4 area, would already need to lawfully comply to Class 1 or 2 requirements.
- Mr. Merza responded that the buildings that prompted the Class 4 reclassification could not comply with Class 1 and 2 noise limits. In order for areas to be Class 4 areas, the buildings would have to be replacement, redevelopments, or re-building and therefore the buildings under the Class 4 area requirements would not exist prior to the reclassification.
- Hal inquired what noise controls Class 4 areas require.
- Mr. Merza responded that Class 4 areas require potentially additional controls at the source, and/or new controls at the receptor, and that for a Class 4 area, the noise control responsibility can be shared between industry and land developers. The industry already controls their noise output, but if there is a new development in Class 4 areas, the noise emissions will exceed what would typically be allowed given the encroaching land use. Therefore, in Class 4 areas, the developers may also be required to install noise controls to ensure the new noise sensitive buildings are not adversely impacted by the source's noise emissions .
- Bryan inquired if the nearby Rogers site (currently a temporary shelter) with a potential for future residential use would be a Class 4 site (because of the proposed change of use to residential/mixed use from office)?
- Mr. Merza responded that because the previous office use was non-noise sensitive, and now may become residential, a noise sensitive use, the site may be a good example of a potential Class 4 area. In that case, the development applicant should be asking the City for a Class 4 designation on these lands.
- Angela inquired if the Class 4 designation is required regardless of whether there was an existing Environmental Compliance Approval (ECA) or Certificate of Approval (for the previous use).
- Mr. Merza responded no, as the ECA is not for the use that is changing to Class 4; the ECA is for the industry that is close to that use (that is impacting the use of the Class 4 area). If the industry is already compliant before the new redevelopment, they should stay in compliance even with the encroaching land use (the redevelopment).
- Angela inquired if an example would be a development proposed beside the Red Path Sugar Factory, as the factory is an existing industrial use.
- Mr. Merza responded that Red Path have an existing, special "Matrix Agreement" that outlines what is required for each new building around them. That agreement predates NPC-300, so it is not completely in line with NPC-300. Red Path Sugar obtained an ECA from the Ministry

based on this Matrix Agreement. Mr. Merza noted that the projected number of people to eventually be living around Red Path Sugar is about 250,000 people.

Slide 13:

- Mr. Merza noted that enclosed noise buffers are not always a good concept. He explained that many developers don't like these buffers because it essentially places a box outside of each window and is not a desirable aesthetic for the building's façade. He further explained that an enclosed noise buffer can look like a balcony, with a certain depth and made out of glass, and is designed to protect the exterior window from stationary - not airport - noise.
- Mr. Merza noted that the high-rise multi-unit building definition was provided to differentiate between stacked towns and larger buildings. Any building with 4 stories and up is considered a high rise in NPC-300.

Slide 14:

- Mr. Merza noted that receptor-based site configuration noise control measures are applicable for stationary and non-stationary sources while receptor-based site construction and architectural noise control measures are only applicable for stationary sources.

Slide 15:

- Mr. Merza highlighted that detention centres "prisons" are noise sensitive institutional purpose building, as are shelters for emergency housing. He explained that the places of worship exemption is due to the fact that many places of worship tend to take advantage of industrial sites and then cause hardships for the industries next door (regarding sound restrictions and complaints). The Ministry decided that if a place of worship purposely moves into an industrial area where noise is already produced, it is unfair to make industry fall out of compliance with noise limits because of the new use by the place of worship.
- Mr. Merza explained that there are two points of reception (POR) for each property. One at the façade and one 30 m from the façade (or at the property line if there is not a point 30 m away from the façade but still within the property bounds).
- Hal inquired about PORs when there is a property with over 30 stories.
- Mr. Merza responded that it is unfair to make the consultant do one measurement at each story, so instead the proponent can pick the worst floor to do the measurement (the floor closest to the noise source and the most exposed to the noise source). Mr. Merza noted that the full definition (available in the NPC-300 document) was meant to be applied to houses, which is why the POR definition mentions floors. Depending on the height of the structure, the POR could be much higher than the main floor.

Slide 16:

- Mr. Merza explained that the "predictable worst-case noise impact" is one hour (per 24-hour period) when the difference between the average noise energy over one hour and the average background sound level is largest. He emphasized that the assessment is an hourly measure.

Slide 17:

- Mr. Merza noted that the measurement of stationary source noise includes sound from everything on the property of a stationary source that is both fixed and mobile (anything within the property boundary).
- Hal inquired if the airport ferry and ferry terminal would be included in the noise measurement.
- Mr. Merza noted that it would be under a different category. The airport ferry is a transportation source, while the ferry terminal is a stationary source that does not require approval from the Ministry

Slide 18:

- Mr. Merza noted that additional exemptions from Ministry approvals exist, and that the full list of exemptions is available on E-Laws, online.

- Mr. Merza clarified that outdoor gun ranges are exempt from Ministry approval requirements, but indoor ranges are not exempt.
- Hal inquired if HVAC systems include air shafts.
- Mr. Merza responded that no, air shafts are not included. Mr. Merza noted that regulation 524/98 has the qualifiers and disqualifiers for the approval of HVAC systems.
- Mr. Merza noted that if the City asks for assessment of one of the sources listed as an exemption, (e.g. of a carwash) they can go to Part C of NPC-300, Tables C5, C6, C7, and C8, to locate the sound limits for these sources.

Slide 19:

- Mr. Merza noted that slide 19 is not applicable if a farmer starts a commercial operation where he import materials/equipment from other farms.

Slide 20:

- Mr. Merza noted that the Ministry does not have limits for these types of sources because they are regulated under the Farming and Food Production Protection Act and therefore don't require approval from the Ministry.

Slide 21:

- Mr. Merza noted that most of the listed facilities are regulated by other government bodies (e.g. the federal government) and the Ministry therefore has no authority to issue approvals.
- Hal inquired if the airport's ferry could be considered an ancillary facility.
- Mr. Merza responded that is not an ancillary facility and that it is regulated under the federal government.
- Angela confirmed that the ferry is under the regulation of the federal government, particularly Transport Canada.
- Mr. Merza added that based on his experience in Ontario Municipal Board hearings, generally ships are outside the Ministry's jurisdiction. However, the noise created dockside (e.g. unloading) can be under the Ministry's jurisdiction.
- Hal inquired if it is only residential and institutions uses that require Ministerial approval.
- Mr. Merza responded that is incorrect, as the Ministry is not involved in any land use planning approvals. The development itself does not need Ministry approval. It is the industrial operations that require approval from the Ministry. The Ministry does issue approvals for noise sensitive land uses.
- Bryan noted that it is therefore the City's responsibility to incorporate these guidelines into the City's land use policies and guidelines.
- Hal inquired what governing body required the noise studies related to the ferry.
- Bryan noted that he would have to research and confirm the answer to that question. He noted that the City does not have in-house expertise to review noise-related reports. The review is often completed by a peer review process that would provide commentary on the appropriateness but would rely on NPC-300 as a guideline, not a regulation/requirement.
- Mr. Merza agreed, noting that the City does not need to follow NPC-300 exactly, and can set its own limits.
- Angela inquired if the City set limits, they would also be required to ensure compliance.
- Mr. Merza responded that the City would be responsible for compliance. He noted that if the Ministry were to get involved in the case of a complaint, the Ministry would only be able to hold a party to the Ministry's guidelines (NPC-300 Part B or Part C). Therefore, if facilities are assessed as stationary sources, they need to comply with Part B or Part C of NPC-300 at a minimum.
- Hal noted that part C2 of NPC-300 generally glosses over noise impact studies.
- Mr. Merza noted that the applicable limits for stationary sources are located on page 46 and 49.

- Max noted that though there are facilities that are federally regulated, but to his knowledge as a past Transport Canada employee, there are no staff who are dedicated to noise issues and regulation.
- Mr. Merza noted that if there is a noise complaint to the Ministry about an airport, the Ministry has no jurisdiction and can only point the concerned party to Transport Canada.

Slide 22:

- Hal inquired if something would still be considered a stationary source if a parking lot part of a private facility.
- Mr. Merza responded that parking lots are not considered part of a stationary source.

Slide 24:

- Hal noted that sources not requiring noise impact assessment is an important issue around the airport because of the emergency services operated out of the airport. Hal noted that there is uncertainty if the emergency service operator at the airport should be considered emergency service, or a business. He explained that the helicopters landing at the airport are not carrying emergency patients (as they have already been dropped off at a hospital) and are only coming to the airport to park. He also noted that this is a private business. Hal further explained that the emergency service provider operates all across Ontario, not just locally.
- Bryan responded that there are fire stations that can also serve very large (not just local) areas.
- Header responded that there are no limits on fire and ambulance because they are not considered stationary sources.
- Hal referred to page 47 of NPC-300 in support of the services at the airport being considered stationary sources.
- Mr. Merza noted that the page 49 reference is to equipment, not vehicles. He explained this reference mainly applies to emergency generators.

Slide 28:

- Hal noted that Table B-2, Class 2 is the community's key issue.
- Lesley noted that there are planes that take off at 6:45 am.
- Mr. Merza noted that anything before 7 am is considered "nighttime". He reminded the NMSC that planes are not subject to stationary source noise limits.
- Mr. Merza noted that the time periods have existed since 1978, and in previous versions of NPC.

Slide 31:

- Mr. Merza noted that on page 56 of NPC-300 a definition for Type F Warning Clause is provided.
- Hal inquired what the definition of "impulsive sound" is.
- Mr. Merza responded that impulsive sound is like a bang, a sudden impulse of energy. The noise can be isolated (e.g. about one an hour), or can be more frequent (e.g. over nine an hour). However, if there are successive impulses (e.g. a jackhammer) that is considered quasi-impulsive (separation of impulsive noise by half a second or less). The Ministry applies a 10 dB penalty when those noises are assessed. An airplane taking off would not be considered impulsive as that is an intermittent sound (even if taking off every 2 minutes, because airplane noise includes a rev up – it is not purely impulsive).
- Lesley stated that there are two loud bangs that take place every time a plane takes off. She noted that when she stands by her window, she can physically feel the sound.
- Mr. Merza noted that this is still not considered impulsive sound. There are clear and technical ISO standards that define what the types of noise are; the slides have just put those into simpler language. Exact, technical definitions can be found in ISO standards.

- Hal noted that the community was shocked to learn that businesses could create 80 dBA of noise at night.
- Mr. Merza responded that if it is one impulse per hour, this is true. If there are two impulses per hour, the dBA would have to be lower (See Table B-4 slide 30).
- Hal noted that contemporary sleeping science tells us that even one loud noise is so disruptive, it can ruin a person's entire night sleep, therefore this limit seems outdated.
- Mr. Merza responded that these are new limits, set in 2013. He explained that the previous guidelines were much more relaxed with impulsive noise. Previously, if there were less than 20 impulses in one hour, it would be deemed infrequent, and the limit would be 100 dB.
- Hal noted that he is perplexed as to why this is the standard, as even being woken up once at night can ruin a person's entire night sleep. He noted that a 75 dB noise would wake up a significant portion of the population. He thinks the standard needs to be reconsidered.
- Max inquired if the limits were mostly developed by the industries that make noise.
- Lesley noted that people can be frightened by loud noises, which is especially impactful on people who are vulnerable to heart attacks and strokes. Overall, Lesley noted that there is increasing science available showing the negative health impacts of noise.
- Mr. Merza noted that the Ministry received a lot of concerns from industry when they lowered limits to their current levels.
- Max suggested that this point seems to illustrate that there is a huge industry bias, and not enough community input being used to set these noise limits.
- Mr. Merza explained that the current levels are a compromise between industries' ability to operate and peoples' comfort.
- Lesley suggested that the limits on noise have been geared to commercial ventures for a long time, and recently studies have shown how these noises impact peoples' health.
- Hal noted that it appears all the measurements are in dBA.

Slide 33:

- Bryan inquired if Mr. Merza knows of any instances where a municipality has attempted to implement a higher noise standard to regulate what is otherwise a federally regulated noise source (not under NPC-300 jurisdiction).
- Mr. Merza noted that he may not be aware of those cases because they don't come to his Ministry for approval. He noted that if that situation occurs, the regulations should rely on NPC-300 Part C.
- Bryan inquired if Mr. Merza could direct the committee to a section of the Ministry of who would know if that has occurred.
- Angela and Mr. Merza agreed that the Ministry of Municipal Affairs and Housing would be the correct ministry to pursue for that answer.
- Bryan inquired if municipal ownership of an airport has any bearing as to how it is assessed in terms of noise standards.
- Mr. Merza responded no, as they are all still federally regulated.

Slide 35:

- Mr. Merza noted that indoor sound level limits are applied when the window is closed.

Slide 36:

- Mr. Merza explained that the outdoor aircraft noise limits are limited to NEF 30, therefore if there is a development proposed in an area over NEF 30, the development should not occur. In Mississauga, there are some developments within NEF 33, but those had several special features (e.g. upgraded exterior windows and doors and large signs at entrances to the neighbourhood noting the high levels of airport noise present).
- Bryan noted that those neighbourhoods are clearly highlighted in Mississauga's Official Plan map.

Slide 37:

- Mr. Merza explained that 5 NEF is equivalent to 37 dBA (add 32 dBA to the NEF number to get the dBA level).
- Hal inquired why there were previous iterations of the NEF formula that used 31 NEF instead of 32.
- Mr. Merza noted that 31 NEF is found on old and draft versions of NCP-300, but that the current number used in calculations is 32 (see NPC-300 section C-3.4.1, paragraph 2).
- Hal inquired why there was this change.
- Mr. Merza explained that a new guideline arose where the Ministry had changed the number to 32.
- Hal suggested that this change would require buildings built to previous standards to suddenly become more sound-proof.
- Mr. Merza stated that was not the case. The calculation represents the conversion of the sounds from aircrafts, depicted in NEF, to dBA. It has no effect on the building's sound protection. There are no 0 NEF or 5 NEF on the maps around airports. The 5 and 0 are purely for the use in this equation to compare them to dB numbers for design of the acoustical insulation requirements.
- Hal inquired how this formula then gets applied.
- Mr. Merza responded that consultants use the numbers. First the consultant identifies what NEF number applies to the building's location, projects what the anticipated outdoor sound level will be, and then allows for the noise transmission loss (e.g. through the window or wall). Next, they identify a number that would be applicable inside and compare it to the noise being heard.
- Hal inquired if this applies to the noise protection measures or the building structure's design.
- Mr. Merza responded yes, but that it was not applicable to outdoor living spaces, in which case NEF 30 would apply.
- Lesley inquired that in an older building noise should not exceed 32 dBA in a bedroom.
- Mr. Merza noted that if the building is older, there may be more than 32 dBA measured in the middle of the room (which is where the measurement should occur, instead of beside windows).
- Hal noted that the bedrooms in his building were designed to face the airport with headboards against exposed walls.
- Max also noted that any of the older buildings do not have air conditioning or central air, so residents need to keep their windows open in the summer time, increasing the level of noise experienced.
- Lesley noted that essentially the buildings were not made with the airport's noise in mind.
- Bryan noted that he believes the way this is regulated today is that either in the zoning or site approval stage, a noise impact study is done. Then these recommendations are made by the proponent's consultant team and may be peer reviewed by a consultant team or two by the City. Those recommendations are rolled into the site plan agreement. Then for the building permit application, there is a check to ensure certain conditions in the site plan agreement have been incorporated into the architectural/façade design. Bryan noted he would like to investigate how much today's processes and standards differ from when the existing waterfront residential properties were built.
- Hal noted that his building was constructed in 1986, with Acadia constructed in 1985.
- Mr. Merza noted that NPC-105 would have been in place during that time period.

Slide 39:

- Lesley inquired if there are special standards for buildings for people with physical challenges (e.g. deafness), to ensure the building supports their needs adequately, in regards to noise.

- Mr. Merza responded no, as slide 39 highlights, uses like hospitals and retirement homes are included under the strictest limits.
- Hal noted that NPC-305 only sets out the noise limits, not the process of reviewing. He stated that the process is not part of the standard or the City's protocol.

Slide 41:

- Hal noted that there are issues with the warning clauses provided in property purchase agreements as none of them state that speech or sleep will be interrupted, which is what communities in the waterfront are experiencing.
- Mr. Merza explained that the clauses state that noise will be an annoyance.
- Hal noted that he believes the limits were set up to prevent the interruption to speech or sleep, and to prevent vibrating windows, but they do not appear to do that.
- Mr. Merza stated that the Ministry limits are designed to be protective of hearing and to prevent annoyance (but may not completely prevent annoyance). The limits are also not designed to completely limit industry based on *new* developments in an area.

Post Presentation

- Wayne inquired what the difference between 10dB to 20dB sounds like.
- Mr. Merza replied that the difference is an apparent doubling of the loudness of sound (for every 10 dB added).
- Max inquired what the unit of measure was on the noise chart Mr. Merza provided (see appendix B).
- Mr. Merza replied that the unit of measure for the chart is dB.
- Max noted that based on previous NMSC discussions, they had decided dBZ is the most balanced measure of noise and is what should be used to measure noise around the airport.
- Mr. Merza explained that the Ministry has had discussion about this point, however the inclination after debate was to stay with dBA. There was an argument for both measures, it was decided to continue to use dBA.
- Max noted that dBA is nowhere near reflective of the perceived noise in the community, as dBA doesn't measure base frequencies, which is a large component of the noise generated by the airport.
- Mr. Merza noted that the Ministry had submissions on this issue in the past. He explained that these different types of dB readings are all adjustments and can be converted to dBC, dBA, etc.
- Max inquired if that meant the dB unit Mr. Merza is referring to is flat, and without adjustment. He noted that this flat, unadjusted unit, is the NMSC's understanding of what dBZ is.
- Mr. Merza explained that the standard term is dB, which could also be referred to as dBZ or dBL, as all are unweighted.
- Max noted that he is pleased with the decision to use a flat unit of measure.
- Hal noted that dBA is used as a standard, and it is averaged over an hour to set noise limits and standards. Over that hour, the noise we are receiving is meant to be 30% less than the base frequencies. Hal inquired if, for noise meters, which subtracts off a percentage in each 1/3rd octave band, the resulting sound pressure would still be too high for the base frequencies.
- Mr. Merza explained that the meter will give both readings. Meters that provide dB and dBC first provide the dB reading, and then apply the corrections. So, both readings are available, all with linear readings. The additional readings depending on the complexity of the meter.
- Hal responded that whatever noise is being measured may have a very high base frequency component (100 to 1000 Hz). In that case, the meter would just be weighting down what is being measured, but the distribution being received is still having an extremely high component of base frequencies.

- Mr. Merza stated that the dBA measure has been used by the Ministry since 1978 and that the Ministry is not going to deviate to other measures for dB for the time being.
- Max noted that the measures in place were influenced greatly by the industry making noise.
- Mr. Merza responded that NPC-300 was developed by a working group of Ministry staff with intensive consultation sessions with multiple stakeholders including municipalities, lawyers, members of the public, industry etc.
- Lesley inquired if public health was involved.
- Mr. Merza noted that they were likely invited.
- Lesley noted that the City of Toronto did a study on how loud is too loud for humans. Exposure to noise up to 70 dBA was previously considered acceptable, but recent evidence shows that the threshold for health impacts is much lower. Lesley explained that the sophistication of health impact measurements need to influence our standards. She stated that it is not only human hearing that can be damaged by sound, but other elements of human health as well.
- Mr. Merza responded that the World Health Organization (WHO) level should 40 dB, outside of buildings, but can go up to 55 dB, however, in this area of Toronto that restriction is not possible. The urban hum alone produces high noise levels.
- Hal inquired about design standards and if a dBA limit (e.g. 50 dBA) actually results in much more sound energy reaching the inside of the space than the actual limit number, as it ends up being averaged over one hour.
- Mr. Merza responded that it is not measured by frequency band, and that it is averaged, which is the LEQ. The LEQ is defined in NPC-101.
- Max noted that this would mean the reported dBA could be much lower than what is actually being experienced because of the averaging.
- Lesley noted that this measure is also lower than what people are feeling, physically. She would like to explore and address the impact of low frequency tones and loud noises on people's health.
- Mr. Merza stated that the Ministry commissioned a study on low frequency noise due to wind turbines. There is no data evidence to connect wind turbine noise and health impacts.
- Wayne inquired if Mr. Merza had advice for how to ensure meteorological impacts are professionally addressed when noise studies are completed around the airport.
- Mr. Merza suggested a review of published, free literature available online, as there is existing research on the impacts of weather factors on sound. Mr. Merza noted that the Ministry standard assumes moderate downwind propagation, as defined in ISO 9613-2. The assumption is that noise is always traveling with the wind in all directions.
- Hal inquired what a moderate wind speed would be.
- Wayne responded that in meteorology, moderate wind speeds are in the range of approximately 20-39 km/hour.
- Mr. Merza noted that under NPC-102, there are conditions where at certain wind speeds, there is also sound generated by the wind.
- Max inquired who he would need to write a letter to in order to object to the use of dBA as a unit of measure.
- Mr. Merza replied that any letter written to the Minister of MECP would likely end up with him, and that the provincial government has no jurisdiction over the airport (as it is under federal jurisdiction). Mr. Merza noted that a letter could be written to the Technical Assessments and Standards Development Branch. He also noted that the Ministry's organization chart is available online at <http://www.infogo.gov.on.ca/infogo/home.html#orgProfile/707/en>
- Angela added that individual's contact information can be located on InfoGo (<http://www.infogo.gov.on.ca/infogo/home.html>).

- Hal explained that noise is experienced differently within a building, based on the direction of the building's façade (e.g. City side or water side). He noted that this difference is not reflected in the approval process.
- Mr. Merza noted that in these cases, the noisier façade could have a different limit than the quieter façade face. It is the proponent's consultant's responsibility to be aware of what background noise should be considered on each side of the building.
- Hal noted that it seems that the issue is that over the past decades, consultants were not familiar with this issue and that there was no adequate check on these consultants.
- Bryan noted that he would be happy to arrange another session to include Ministry representation, NMSC representation, and the community building permit department. He will investigate to see who has had the most exposure to the issue and controls within the City.
- Hal noted that he believes this is a Waterfront Secretariat issue.
- Hal inquired if Mr. Merza had any thoughts around vertical ambient noise gradients, as it relates to high rise residential buildings.
- Mr. Merza added that he has measured the urban hum of Toronto, noting that at 3 am, the urban hum measured was 53 dBA. Therefore, average urban hum in the high 40 dBs and low 50 dBs in the nighttime is easily achievable.
- Hal inquired if there was a comprehensive list of all NPC documents. Hal noted that some of the NPC documents identify what should be included in a noise report.
- Angela noted that the Public Information Centre for the Ministry has a listing of all of their publications.
- Mr. Merza responded that there is no comprehensive list, but if a member of the NMSC is interested in a topic the Ministry can provide the applicable guideline. He explained that because of AODA compliance requirements, all the documents online are HTML, not PDF. PDF copies can be provided if requested.
- Hal noted that if there was a comprehensive list of documents, with number and title, that would be helpful, as he is not aware of all of the documents available. He would like all the relevant Ministry documents available to ensure that the upcoming Noise Study, to be completed for PortsToronto, includes the appropriate scope of work.
- Hal inquired how many categories of noise reports there are.
- Mr. Merza responded that the Ministry receives four types of noise reports, submitted in the process of gaining Ministry approval:
 - Primary noise screening form (online)
 - Second noise screening form (online)
 - Acoustic assessment report
 - Acoustic audit report
- Hal inquired about where the NMSC should look to find guidance on the requirements for a feasibility and detailed noise study.
- Mr. Merza noted that there is some guidance in NPC-300 and in LU-131.
- Bryan inquired if the scope for those reports is provided by the Ministry.
- Mr. Merza responded that the scope is provided by the Ministry.
- Hal noted that he is interested in the contents (table of contents for the report) and the rigorosity of the reports.
- Mr. Merza directed Hal to NPC-233.
- Hal inquired if the NMSC could receive the City's requirements for noise studies.
- Bryan responded that the City can provide examples of accepted studies.
- Hal noted that the City must have guidelines for consultants providing a study.

- Bryan noted that every study required in support of a planning application has a separate scope of work associated with that study. He noted that those are all linked online. The noise study scope of work is included in that. Bryan noted he was curious if the scope of work for that study would be specific to the City of Toronto or would reflect Ministry guidelines.
- Mr. Merza noted that the Ministry provides guidance on how to prepare an acoustic assessment report. He can email this document to Bryan. He reiterated that the report prepared for the Ministry is not used to make land use decisions.
- Lesley inquired if there is a Ministry department that deals with the impact of environment on health, with the latest research on environmental impacts on human health.
- Mr. Merza suggested that would include the Technical Assessment and Standards Development Branch. He noted that the branch deals mainly with air pollution but do have toxicologists on staff.
- Mr. Merza noted that the NMSC can also email him their follow-up questions after this meeting.
- Hal raised the issue of sound level creep and the impacts of that phenomenon on setting meaningful noise standards.
- Mr. Merza responded that the issue of sound level creep was raised multiple times when NPC-300 was written. It was a consideration, however, if changes had been made to accommodate sound level creep, industry would have had to adhere to ever-lower noise limits.
- Hal noted that sound creep is an issue that the City will need to deal with, as sound creep will always occur as an area grows over time.
- Lesley suggested that in order to address sound level creep, it would appear the City would need to separate industrial uses from residential uses completely.
- Hal noted that NPC-300 (page 47 and 49) addresses road noise, which can be applied to the airport.
- Mr. Merza responded that the airport is a stationary noise source that may not require Ministry approval, and that the emergency equipment at the airport (e.g. the backup generator) would need to be assessed separately.
- Hal noted that from a resident perspective, there is meant to be a sound limit of 50 dB. Hal inquired what range of noise can be generated that can average to 50 dB over a one-hour period (as the Ministry measurements are averaged over one-hour periods).
- Mr. Merza replied that any range can occur as long as the energy average is 50 dBA over the hour. He noted that the energy averaging equation is included in NPC-101.
- Hal noted that if there is a loud noise, for example 70 dB, that type of noise can only happen so often within the one-hour period in order for a 50 dB average over the hour to be possible.
- Mr. Merza responded that impulses are not measured hourly, they are measured and energy averaged using the LLM equation in NPC-101.
- Hal posited that the key is understanding the peak noise level, and how long the peak sound emission can occur in order to result in a 50 dB average over the hour.
- Mr. Merza reiterated that it is important to remember that the calculation is an energy average over the hour.
- Hal noted that it seems as though the economics of measuring stationary source seems to be heavily influenced by how industry want to emit.
- Lesley noted that sudden changes in sound can be very detrimental to human health. She added that another concern is consistent droning that never stops; in this case, the noise builds up and no relief is provided.
- Mr. Merza explained that NPC-300 Part C has some guidance about airport noise. He noted that land-based barriers are ineffective in these situations. Instead, building design (e.g. windows, doors, air conditioning etc.) and distance from the airport are important factors that reduce noise impact.

- Lesley noted that the community is based along the waterfront, and people are meant to be outside in public space along the waterfront; they cannot be placed inside soundproof rooms as a solution.
- Mr. Merza noted that outdoor noise from airports is referenced in NPC-300, page 40, section C 3.4.2. “The distance separation from the airport and consequently the location of the noise sensitive land use with respect to the NEF/NEP contours are the only measure that controls the outdoor noise impacts.”
- Lesley noted that when she was recently in the waterfront Music Garden, she measured 105 dB while planes were taking off.
- Hal inquired if therefore it is not the purpose of the standard to avoid vibrating windows.
- Mr. Merza responded that aircraft noise is not stationary source noise and therefore the NPC stationary sources limits do not apply.
- Hal inquired how noise from when planes are on the airport grounds (e.g. taxiing) are captured and regulated, as NEF measures only apply to when a plane is in-flight. He inquired if there are any limits on aircrafts taxiing on the airport grounds.
- Mr. Merza responded that most significant airports are under federal jurisdiction, therefore the Ministry has no control over them.
- Bryan noted that there was a reliance on NEF in the Tripartite Agreement when the buildings along the waterfront were approved and constructed. The fact that the NEF 30 contour doesn’t encroach any of the areas in Bathurst Quay, reflects that the NEF contours were the standards, rightly or wrongly so, being relied upon.
- Wayne noted that it sounds like the ICAO has a lot of power over the federal government.
- Hal noted that if aircrafts moving on the airport grounds are not considered stationary source noise, and the noise is also not captured in NEF measurements, that there is clearly a messy zone regarding airport noise regulations. He added that the federal government can add new flight paths, planes types etc., which is likely why the Province has said that it is beyond Provincial jurisdiction to regulate, leaving taxiing airplanes somewhat limitless in the amount of noise they can emit.
- Mr. Merza reiterated that the Ministry has and had no say in approving buildings along the Toronto waterfront.
- Bryan summarized that the discussion reinforces that the Tripartite Agreement has proved a poor framework for managing growth at both the City side and at Billy Bishop Airport. It is a blunt planning tool that isn’t very useful, but unfortunately it was applied.
- Max noted that when the Agreement was first signed, the area around the airport was mainly industry, and noise was not really a problem. Major changes and noise impacts on the community mainly arrived when Porter Airlines came to Billy Bishop Airport.
- Bryan noted that when the Tripartite Agreement was signed, the growth assumptions about the airport were vastly lower than the growth the airport is experiencing now.
- Hal noted that the community is interested in the official noise control map, how it is fixed in time and space and location.
- Hal noted that the Tripartite Agreement does not state that the existence of Lake Ontario should be ignored, in the context of noise impacts. This is a critical issue for the Tripartite Agreement, as the airport is surrounded by water.
- The NMSC members all thanked Mr. Merza for attending the meeting, noting that his presence and knowledge was very helpful and provided important points of clarification for committee members.

Adjourn

The meeting adjourned at 9:35 pm.

Action Items

This list summarises the action items from the meeting discussion:

1. Bryan Bowen, City of Toronto, arrange another session to include NMSC representation and the community building permit department. He will investigate to see who has had the most exposure to the issue and controls within the City and include them in this session.
2. Bryan Bowen, City of Toronto, will provide the NMSC with examples of accepted noise studies.

Note: 5 NPC documents referred to in discussion were distributed to the NMSC members after the meeting.