

Steve Morgan on: Building Your Noise Control RFQ (Request for Quote)



So you know all about the importance of mitigating noise pollution and protecting your employees and neighbours from harmful noise emissions. You did your homework. You've already read up on noise—you understand the safety aspects, the nature and behaviour of sound, and how noise control applies to your specific industry. Perhaps you've already incorporated noise control into your plans for your new or existing facility. Where do you go from here?

The first step in initiating a comprehensive noise control plan is to ask your friendly neighbourhood acoustical technicians to provide you with a quote for their services. In

business jargon, this is known as an RFQ, or *Request for Quote*. Seems simple enough, doesn't it? You locate a reputable acoustical engineering firm capable of meeting the needs of your project and see what they can offer you.

But if you're on a tight timeline or inclined to skip the social pleasantries and dig right into the project, there are a variety of ways to expedite this step of the process in order to ensure that the project is understood and communicated efficiently and effectively—and that nothing gets in the way of a smooth project rollout.

It's no secret that the key to great results is great planning.

When building your RFQ if you know what information your acoustical engineers need from you in order to provide you with an accurate and speedy quote, the entire process will be able to proceed smoothly and with the utmost attention to the unique details of your project.

The Fundamentals:

- **Contact Information**
 - Client Company Name
 - Primary Contact Name, Title, and Contact Details



- Deadline for Quote
- **Basics of Request**
 - Has a Noise Impact Assessment been completed?
 - If yes, include most recent up-to-date noise report, any Dynamic Insertion Loss tables (DILs) or transmission losses that need to be met or are spec'd out in the NIA, and noise contour maps if available
 - If a noise study is required, which type are you looking for?
 - Noise Impact Assessment
 - Actual (identifies noise contribution of current existing facility)
 - Theoretical (predicts noise contribution of planned facility)
 - Hybrid (identifies noise contribution of existing facility and predicts noise contribution of planned expansion or additional equipment)
 - This will indicate whether a site visit, travel, and sound monitoring equipment will be required
 - Comprehensive
 - Baseline/Ambient
 - Used to determine the ambient noise level of a site prior to the construction of a facility
 - Other (Custom Report)
 - Are you looking for noise control recommendations? Noise contour maps? Should modelling of both dBA and dBC levels be incorporated into the scope of your project?
- **Project Location (LSD/County/Coordinates/etc.)**
 - Is this an existing, new, or expanded facility?
 - What is its exact geographical location?
 - Include site plot plan
 - It is imperative that all involved parties are working with the same and most recent version of plot plan/equipment list and any changes are immediately communicated to ensure all noise control goals are achieved
 - Indicate any topographical or other location-related concerns that should be taken into consideration, if applicable
 - List known resident locations within a 1 mile radius, if applicable
 - Are there other facilities or potential noise sources nearby? If so, how far away are they located and in which direction?
- **Know Your Noise Target**
 - Identify target noise level

- What regulations do you need to meet? Are these internal company regulations or regulations outlined by a particular regulatory body, and if so, which one?
- Have there been any noise complaints? If so, include applicable details, such as location of complainant and nature of complaint.
- Note any additional regulations, requirements, or policies to be taken into consideration.

A Note on Noise Regulations

Not all noise regulations are created equal. Some have more value than others. Receptor-based regulations (or, more specifically, resident-based regulations) are the most valuable. Since the goal of a noise regulation is to minimise noise pollution to nearby communities, it makes the most sense to set requirements for what that facility contributes to a nearby sensitive receptor, whether on public or private property. A high-quality regulation should, ideally, also take into account any pre-existing noise sources, ambient noise levels, and corrections for other nearby businesses or infrastructure.



Additionally, regulations that recognise the importance of including both dBA and dBC contributions are valuable since low frequency noise is often a main driver of complaints.

In comparison, fence-line-based regulations are often of minimal value to the overall goal of noise regulations. The regulations can be difficult to meet and will not necessarily protect nearby residents from noise pollution. These types of regulations leave themselves open to a variety of shortcuts and workarounds. Purchasing adjacent property would lessen the fence-line noise levels, technically, but this may lead to an unnecessarily large footprint on land that could have better uses. However, in cases where state forests are involved, or there is a specific concern about impact on local wildlife, these regulations may be useful.



Other regulations can be valuable, but unclear, such as ambient noise level regulations. For example, a noise regulation may require that a new site add no more than 3 dBA to the ambient noise of an area, but may not provide direction for future site expansion and equipment changes (i.e., is the initial ambient level still relevant, or is there a new ambient level that includes the previous contribution of the site?).

Also worth noting is that *the whole is frequently greater than the sum of its parts*—meaning that the site needs to be taken into consideration as a whole for noise control to be most effective. If noise targets specify that certain pieces of a package need to be X dBA at X' (e.g., a cooler must be 85 dBA at 3', or a building must meet 65 dBA at 5') you may find that the piece of equipment can be made to meet that specification but the target still may not be met at the required distance. This is because other noise-generating sources may be excluded or overlooked in the scope, such as the engine casing or muffler shell. If each piece of a compressor package must meet a specific noise requirement, the sum of them together is likely to still exceed the requirement. The site as a whole must be addressed in order for an effective solution to be met.

The Specifics:

- **Equipment Technical Data (for all existing and proposed equipment)**
 - GA Drawings
 - Equipment data sheets
 - Specific equipment details
 - Exhaust Silencers
 - Exhaust temperature
 - Exhaust gas flow rate
 - Maximum allowable backpressure
 - DIL requirement
 - Exhaust pipe layout (including elevation information)
 - Ventilation
 - Maximum ambient air temperature
 - Maximum desired interior building temperature
 - Type of power available on site
 - Total heat release within building
 - DIL requirement
 - Cooler Silencers
 - Cooler air flow
 - Cooler dimensions (measure-up or GA drawing)
 - Center to center fan distance (to avoid cooler starvation)



- DIL requirement
 - Buildings
 - Desired size of building
 - Desired eave height
 - TL requirement (Noise assessment will supply)
 - Thermal Requirement (Insulation R-Value)
 - Install location
 - Any known details required to size and select appropriate equipment
 - Any available equipment sound data or miscellaneous details that should be considered
 - Include pictures whenever possible
 - Detailed list of any ancillary equipment or devices on site
- **Scope of Project and Expectations**
 - Outline and prioritise deadlines/deliveries/timeline of project
 - What are your priorities with this project?
 - What does your timeline look like and is it flexible or rigid?
 - Will shipping be required?
 - Will an install supervisor and acoustical engineering crew be required on site?
 - Estimated Project Timeline
 - E.g., Equipment delivery due date
 - Noise Control Equipment Expectations
 - Equipment color specifications
 - Color confirmation upfront may save a great deal of time later on
 - Full project build-out potential
 - What are your long-term plans for this site?

The Often-Overlooked:

To avoid unforeseen costs and delays, it is important to consider including any and all relevant information regarding your company's safety manual or contractor management manual.

- **Safety Information**
 - What are your site's install safety requirements?
 - Orientation
 - Ticket requirements
 - Site specific training courses and lengths
 - Client specific training courses and lengths
 - List of specific general training courses required (e.g., First Aid, WHMIS, H₂S, TDG, etc.)
 - Scaffolding requirements



- Company Safety Program
- Other?
- **The Big Picture**
 - Are there additional facilities in the area that may be contributing to the noise levels? Those in a 3 mile radius should at least be acknowledged and potentially incorporated into the larger area noise plan
 - Other nearby noise sources, such as highways, may affect the noise level in your area as well
 - What are your future plans for this site? If expansion is intended, it can be useful to note this upfront to make sure that your facility's present *and* future noise levels are taken into consideration (even if plans are for the distant future), which may save considerable cost and time in the long run.

References and Citations

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Written and composed by Taija Morgan.