

Acoustic Engineer interview questions

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What to expect

Acoustic engineering interviews usually combine technical depth with project-based discussion. You will be asked to demonstrate your understanding of measurement, modelling and compliance, and to show how you work with clients and project teams.

- **Technical knowledge:** Questions on acoustic principles, standards and modelling software.
- **Process and project:** Walk-throughs of how you approach an assessment from scoping to reporting.
- **Scenario and judgement:** Hypothetical noise problems and how you would resolve them.
- **Behavioural:** Past examples of teamwork, client management and problem solving.
- **Compliance and regulatory:** Familiarity with Australian standards, EPA requirements and planning processes.

Typically a two-stage process: an initial phone or video screen with a recruiter or hiring manager, then a longer interview with a technical panel. The panel may include a senior acoustic engineer and a project manager. You might be asked to discuss a past project in detail, and some employers include a short technical exercise or a review of a sample report.

1. Can you explain the difference between sound pressure level and sound power level, and how you use each in an acoustic assessment?

Why they ask

This tests foundational knowledge and how you apply it in practice.

How to structure your answer

Define each term clearly, state the reference values, and give a project example where you used one or both. Finish by explaining how you move between them, for example when specifying equipment.

Example answer

"Sound pressure level is what we measure at a point in space, like a microphone reading. Sound power level is a property of the source itself, independent of the environment. In an assessment, I might measure sound pressure levels around a factory to check compliance, then use the manufacturer's sound power level data for a new chiller to predict levels at nearby homes. I would convert between them using the appropriate equations, accounting for distance and directivity. This helps me decide whether a barrier or an enclosure is needed."

2. Walk me through how you would approach an acoustic assessment for a new residential development near a railway line.

Why they ask

Assesses your planning, technical method and understanding of the development approval process.

How to structure your answer

Start with scope and desktop review, then describe measurement and modelling, options analysis, and finally reporting and compliance. Mention relevant standards.

Example answer

"First I would review the site plans and the relevant rail noise criteria, likely under a state environmental planning policy or AS 2107. I would do a desktop study using rail traffic data and topography, then carry out unattended monitoring to capture existing noise levels. Next I would model the site in SoundPLAN or CadnaA to predict noise levels at each facade. If levels exceed targets, I would test options like upgraded glazing, mechanical ventilation, or a barrier. I would document the

recommended treatments in an acoustic report for the development application, and work with the architect to make sure the design can accommodate them."

3. Tell me about a time you had to explain a complex acoustic issue to a client or architect who had no technical background.

Why they ask

Tests communication and stakeholder management.

How to structure your answer

STAR: Situation, Task, Action, Result. Focus on how you simplified the concept and the outcome.

Example answer

"On a project, the architect wanted to use a lightweight roof but the predicted rain noise would exceed the internal design criteria. I explained the issue by comparing it to the sound of heavy rain on a tent versus a tiled roof. I then presented three options: adding a ceiling with insulation, using a weighted roof membrane, or changing the room layout. The architect chose the ceiling option, and we met the criteria without changing the roof design. The client appreciated having clear choices rather than just a problem."

4. You are on site and the measured noise levels exceed the predicted levels from your model. What do you do?

Why they ask

Tests judgement, problem solving and ability to work under pressure.

How to structure your answer

Acknowledge the discrepancy, check for errors, investigate causes, communicate with the team, and propose next steps. Show you stay calm and methodical.

Example answer

"First I would check my measurement setup: calibration, microphone position, weather conditions, and any extraneous noise. If the setup is fine, I would look for sources not in my model, like a new piece of equipment or a reflective surface. I would inform the project manager immediately and suggest additional measurements to pinpoint the source. Depending on the cause, I might recommend a temporary measure or revise the model. The key is to be transparent and to give the team a clear path forward."

5. How do you stay current with changes to noise regulations and standards in Australia?

Why they ask

Shows professional development and compliance awareness.

How to structure your answer

Describe your sources: standards updates, EPA websites, industry associations, Engineers Australia events, and internal training. Give an example of how you applied a change.

Example answer

"I subscribe to updates from Standards Australia and check state EPA websites for policy changes. I am a member of the Australian Acoustical Society, which sends out technical notes and runs seminars. On one project, a new noise guideline for wind farms came into effect, so I attended a workshop and then reviewed our assessment methodology to ensure it aligned. I also keep a folder of current standards and share relevant updates with my team."

6. Describe a situation where you had to defend your acoustic recommendations against pressure to reduce cost.

Why they ask

Tests integrity, negotiation and client management.

How to structure your answer

STAR, plus how you balanced cost with compliance and performance.

Example answer

"A developer wanted to remove a noise barrier to save money on a residential project near a rail line. I showed that without the barrier, internal noise levels would exceed the planning condition, which could delay approval. I proposed a lower-cost alternative: a shorter barrier combined with upgraded glazing on the most exposed facades. This met the criteria and reduced the cost. The developer accepted the compromise, and the project moved forward without a compliance issue."