Non-destructive Testing Technician interview questions

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What to expect

Non-destructive testing technician interviews blend technical method knowledge with safety and judgement questions. Employers want to know you can apply the right technique, interpret results correctly, and stand your ground when fitness for service is on the line.

- **Technical method knowledge:** Questions about specific NDT methods, standards, calibration and interpretation. Expect to explain how you would inspect a particular component.
- **Safety and compliance:** Radiation safety, confined space, working at heights and site permits. They want to see you know the controls and will not cut corners.
- **Scenario and judgement:** Situations where a defect indication or production pressure tests your decision-making. They want to hear your escalation path.
- **Behavioural:** Past examples of teamwork, handling a missed defect, or communicating with clients. Use STAR.
- **Process and reporting:** How you plan an inspection, calibrate, record results and issue a report. They may ask you to walk through a job from start to finish.

A typical process starts with a phone screen with a recruiter or hiring manager, then a technical interview with a Level 3 inspector or site supervisor. For field roles, there is often a practical assessment or method-specific questions, followed by a site safety induction and medical. Some employers ask you to bring your certification cards and radiation licence to the interview.

1. Walk me through how you would inspect a welded pipe spool using ultrasonic testing, from calibration to reporting.

Why they ask

This tests your process knowledge and whether you can apply AS 2207 in a structured way.

How to structure your answer

A walk-through: setup and calibration, scanning technique, interpretation, reporting. Mention standards, reference blocks, and safety.

Example answer

“I would start by checking the job scope and confirming the pipe spool material, thickness and weld configuration. Then I select the correct probe and reference block for the thickness range. I calibrate on the reference block, checking the initial pulse, back wall and a known defect. Once calibrated, I scan the weld in accordance with AS 2207, using a raster scan for the cap and a different technique for the root. I mark any indications on the pipe, measure their length and depth, and compare them to the acceptance criteria. If I find something rejectable, I document it with photos and a sketch. Finally, I complete the inspection report, sign it as a Level 2, and submit it to the supervisor. I also make sure radiation or confined space controls are in place if the area is restricted.”

2. Tell me about a time you identified a critical defect that others had missed. What did you do?

Why they ask

Checks attention to detail, integrity and escalation.

How to structure your answer

STAR: Situation, Task, Action, Result.

Example answer

“During a shutdown at a mine site, I was doing magnetic particle testing on a crane hook that had already passed a visual inspection. I noticed a linear indication near the throat that looked like a crack. I stopped the job, re-cleaned the area and re-tested. The indication was still there, so I marked it and informed the supervisor. I also took photos and wrote a preliminary report. The engineering team reviewed it and confirmed a fatigue crack. The hook was removed from service and replaced before the crane went back online. The result was no injury and no further damage to the crane.”

3. You're on a shutdown and the radiography team finds an indication that could be a crack, but the production manager wants to sign off and restart. What do you do?

Why they ask

Tests safety judgement and ability to handle pressure.

How to structure your answer

A judgement-under-pressure structure: acknowledge the pressure, restate the safety and regulatory obligation, describe the escalation path, and explain how you document and communicate.

Example answer

“I would stay calm and acknowledge the production pressure, but explain that I cannot certify the component as fit without further evaluation. I would refer to the relevant standard and the site's fitness-for-service procedure. Then I would escalate to my supervisor or the Level 3 inspector and ask for a second opinion or additional testing, such as ultrasonic testing to size the indication. I would document the indication, my decision and the escalation in writing. If the production manager still wanted to restart, I would remind them of the regulatory obligations under the radiation safety and work health and safety legislation and ask for a formal engineering assessment. I would not sign off until the defect is resolved.”

4. What methods are you certified in, and how do you keep your knowledge current with standards like AS 2207 and AS 2177?

Why they ask

Confirms your certification level and commitment to continuing professional development.

How to structure your answer

A direct technical answer: list methods and certification levels, then explain how you maintain currency through AINDT CPD, standards updates and equipment training.

Example answer

“I am certified to AINDT Level 2 in ultrasonic testing and magnetic particle testing, and I have Level 1 in dye penetrant testing. I keep current by completing AINDT continuing professional development each year. I also subscribe to standards updates through Standards Australia and review changes to AS 2207 and AS 2177 when new editions come out. When my employer buys new equipment, such as phased array or digital radiography, I complete the manufacturer training and supervised hours before I use it independently.”

5. Describe a time you had to explain a complex test result to a client or non-technical colleague. How did you make it clear?

Why they ask

Tests communication skills, especially for client-facing roles.

How to structure your answer

STAR: Situation, Task, Action, Result.

Example answer

“A client's site engineer asked why a weld had been rejected when it looked fine to him. I explained that the ultrasonic test had picked up a lack of fusion that was internal and not visible. I showed him

the scan display, pointed out the indication, and compared it to the acceptance criteria in AS 2207. I used a simple sketch of the weld to show where the defect was. He understood and agreed to the repair. The result was that the client trusted the inspection process and we avoided a dispute."

6. How do you manage radiation safety and confined space controls during a field inspection?

Why they ask

Safety is critical in this role. They want to see you know the permits, barriers and monitoring.

How to structure your answer

A safety-focused structure: plan, permits, barriers, monitoring, communication, and emergency response.

Example answer

"Before any radiography job, I check the radiation licence and the site's radiation management plan. I set up barriers and warning signs at the calculated distance, and I use a survey meter to confirm dose rates are safe. I make sure only authorised people are in the area. For confined space, I check the permit, test the atmosphere, and have a standby person outside. I maintain communication with the standby person and know the emergency response plan. I never rush these controls, even when the shutdown schedule is tight."