

Marine Engineer interview questions

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What to expect

Marine engineering interviews tend to test three things at once: your technical grasp of propulsion and auxiliary systems, your judgement when a vessel or build is under pressure, and how you work with classification societies, shipyards and operators. Expect a mix of technical questioning, project walk-throughs and scenario work.

- **Technical:** Questions on propulsion and auxiliary system design, machinery selection, calculations, materials and how you use tools such as AutoCAD, SolidWorks, AVEVA E3D Design, MATLAB and Maxsurf in your work.
- **Project and process:** Walk-throughs of new build or refit projects you have delivered, from concept and drawings through to installation, commissioning and sea trials.
- **Regulatory and compliance:** Questions on classification society rules, AMSA requirements, survey and statutory standards, and how you build compliance into the design and build sequence.
- **Behavioural:** Situations involving a fault at sea, a shipyard delay, conflicting priorities, or a disagreement with a surveyor or operator, assessed with a STAR-style structure.
- **Safety:** How you manage worksite safety during installation, hot work, confined space and testing, and how you respond when a safety concern affects the program.
- **Scenario and judgement:** A problem is put in front of you, such as a machinery failure during sea trials or a late design change, and you are asked how you would work through it under time pressure.

A first interview is usually with an engineering manager or technical lead and runs through your background, one or two past projects and a set of technical questions. Shortlisted candidates often move to a second stage with the operations or projects team, which may include a scenario or fault-diagnosis discussion, questions about compliance and classification, and a conversation about site or shipyard safety. Some employers include a brief technical presentation or a walk-through of drawings or calculations you have prepared. Site-based roles may include a walk of the yard or vessel as part of the process.

1. Walk me through a marine engineering project you delivered, from the initial design brief to handover.

Why they ask

The panel wants to see how you structure a project end to end, where you made engineering decisions, and how you handled the interfaces with the shipyard, operator and surveyor.

How to structure your answer

Use a chronological walk-through: the brief and constraints, concept and detailed design, drawings and specifications, procurement, installation and commissioning, sea trials, and handover. Name the systems involved, the standards you worked to, and one decision you had to justify. Close with what the vessel or project achieved and what you would do differently.

Example answer

"The project was a refit of a coastal vessel where the auxiliary systems were at end of life and the operator needed to stay on schedule. I started by reviewing the existing drawings and survey reports, then sized and specified the replacement machinery and prepared the detailed drawings and calculations. I worked with the shipyard on a build sequence that let the vessel enter dock for the shortest possible window, and I coordinated with the classification society early so the survey requirements were clear before work started. During installation I was on site for the testing and commissioning, and we ran the sea trial program with the surveyor on board. We picked up a

vibration issue during trials, traced it to alignment, and corrected it before handover. The vessel returned to service on the planned date and met the survey requirements without rework."

2. How do you make sure a design or refit meets classification society and AMSA requirements, and how do you handle a surveyor's objection?

Why they ask

Compliance is central to marine engineering, and the panel is testing whether you build it into the process or treat it as a late hurdle.

How to structure your answer

Explain your process first (rule review at concept stage, design reviews, documented evidence, early engagement with the society), then answer the objection part with a short real or realistic example showing how you resolved a disagreement professionally.

Example answer

"I start with the relevant rules and the operator's requirements before the design is locked in, then hold a review with the classification society early so any interpretation questions come out while changes are still cheap. I keep calculations, drawings and test records together as the evidence trail, because a surveyor will ask for it and it should already exist. On one project a surveyor raised a concern about how a machinery space ventilation arrangement met the rules. Rather than argue it out on the spot, I went back to the rule text, prepared a short calculation note showing the actual airflow and temperature margins, and sat down with the surveyor to walk through it. In that case the original arrangement was accepted with a minor change to the ducting, and the note went into the compliance pack. If the interpretation had gone the other way, I would have raised it with the design manager and worked the fix into the build sequence before it affected the schedule."

3. Tell me about a time you diagnosed a fault on a vessel or during commissioning. How did you find it and what did you do?

Why they ask

Fault diagnosis under operational pressure is a core marine engineering skill, and the panel wants to hear structured thinking, not guesswork.

How to structure your answer

Use STAR. Set the situation and the symptom, describe the steps you took to isolate the fault and the people you worked with, then give the outcome and what you learned about the system or the process.

Example answer

"During commissioning on a new build, the main engine kept tripping on a shutdown alarm when we ran it up in the harbour. The symptom was intermittent, which made it harder to pin down. I worked through the shutdown circuit methodically, checking sensors and wiring against the drawings, and reviewed the alarm history with the control system supplier. The cause was a sensor with a marginal setting that tripped under a particular load condition rather than a genuine engine problem. I documented the finding, adjusted the setting with the supplier's agreement, and we repeated the run-up and then the sea trial without a repeat. After that I made sure the commissioning procedure included a full alarm and shutdown test at load, so the same issue would be caught earlier on the next vessel."

4. A shipyard tells you a key piece of machinery will be delivered late and the docking window is fixed. What do you do?

Why they ask

Marine projects run on tight docking and sailing windows, and the panel is testing your judgement and prioritisation when the program slips.

How to structure your answer

This is a judgement-under-pressure question. Show how you would assess the critical path, what options you would weigh, who you would inform and when, and how you would protect the vessel's compliance and safety. Give a clear recommended course of action rather than listing every possibility.

Example answer

"First I would confirm how late and why, and check whether the delivery date is firm or negotiable, because the answer changes everything. Then I would work the critical path backwards from the docking window to see what can move and what cannot, and look at whether the machinery can be installed in a later phase without affecting survey or sea trials. I would brief the project manager and the operator early with the options and a recommendation rather than waiting for the deadline to arrive. If the slip could not be absorbed, I would look at whether a compliant alternative or a temporary arrangement was acceptable to the classification society and the operator, and if it was not, I would recommend moving the docking window rather than cutting corners on testing. The key is to keep compliance and sea trial integrity intact and to communicate before the schedule forces the decision."

5. How do you manage safety during installation, testing and sea trials, particularly with hot work, confined spaces and live machinery?

Why they ask

Marine work is high hazard and the employer needs to know you take worksite safety seriously as an engineer, not just as a set of rules.

How to structure your answer

Outline your approach in order: risk assessment and permits before work, controls during the job, communication and stop-work authority, then close out. Support it with one example of a risk you identified and how you handled it.

Example answer

"Before any installation or testing I make sure the risk assessment and permits are in place for the actual task in the actual space, not a generic one, and that the people doing the work have been briefed on the specific hazards. For hot work I confirm fire watch, isolation and gas testing, and for confined spaces I check atmosphere, ventilation, entry control and rescue arrangements before anyone goes in. During sea trials and machinery testing I keep communication clear between the bridge, the engine room and the test team, and I make sure everyone knows they can stop the test if something does not look right. On one commissioning job I stopped a test run because a temporary guard had not been refitted after a repair. It delayed the sequence by a couple of hours, but it prevented someone reaching a rotating part, and after that I added a guard check to the pre-test checklist so it did not come up again."

6. Which design tools do you use day to day, and how do you decide when a detailed model is worth the effort?

Why they ask

The role uses CAD and analysis software, and the panel wants to know you are productive in the common tools and that you can match the level of modelling to the decision being made.

How to structure your answer

Give a straightforward account of your toolset and how you use it, then answer the judgement part with a principle (model only as far as it changes a decision) and a short example.

Example answer

"I use AutoCAD and SolidWorks for drawings and general modelling, AVEVA E3D Design when the project needs a coordinated 3D model across disciplines, and Maxsurf and MATLAB for vessel performance and engineering calculations. The decision on how detailed to go comes down to what the model is for. If it is a concept comparison, a simple arrangement and a spreadsheet of key figures is enough. If it is a machinery installation with tight clearances and interfaces across systems, a detailed model pays for itself because it catches clashes on screen rather than in the yard. On one

refit, a fully detailed model of the engine room took extra time up front but let us resolve a pipe routing clash before fabrication, which saved rework on site."