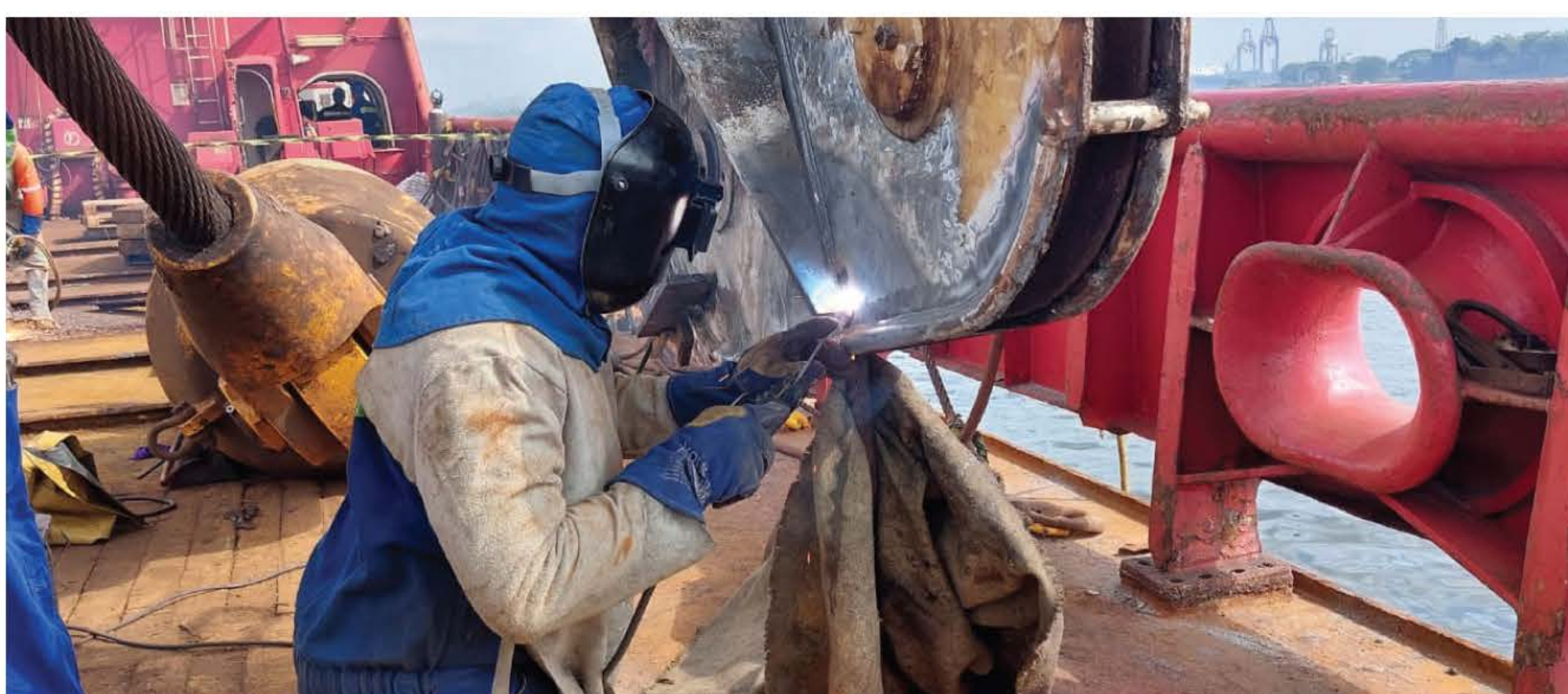


CRANE STRUCTURAL REPAIR IN-SITU



THE CLIENT

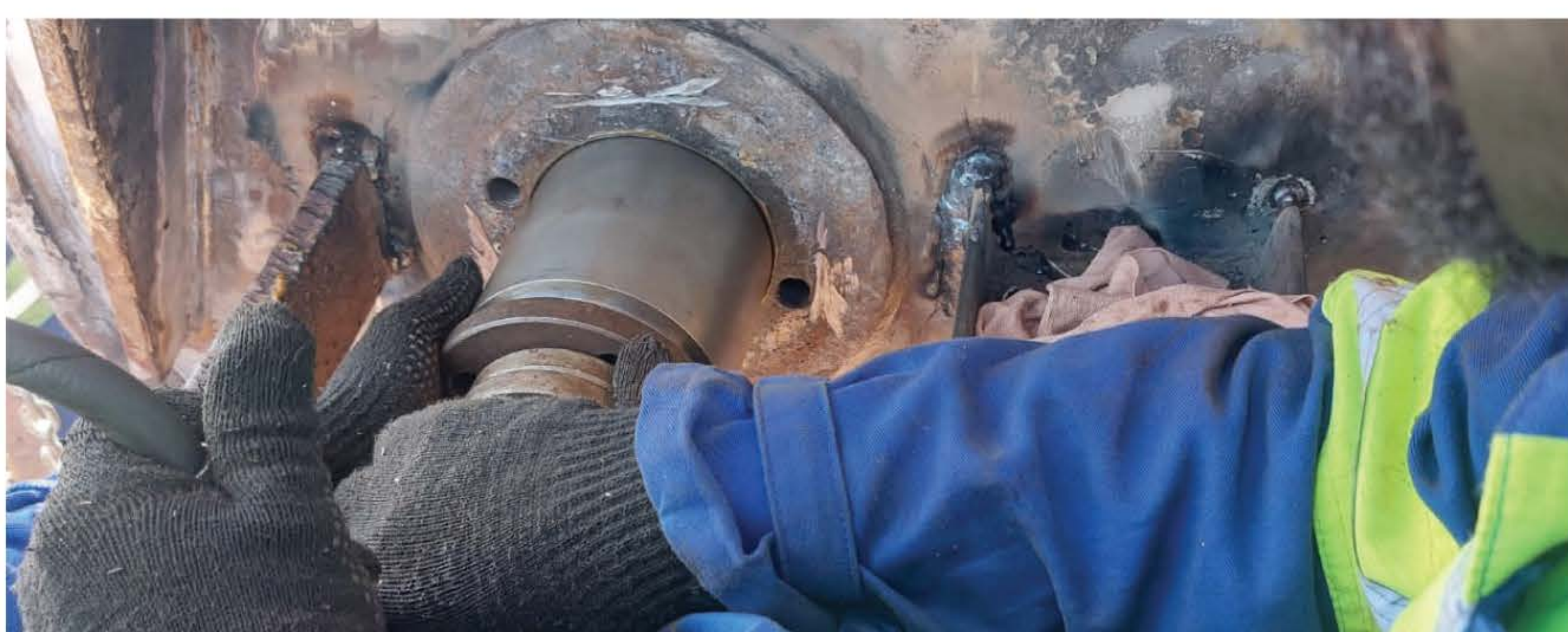
The client is an Offshore support company that called upon Metalock Brasil to service a Multi-Purpose Offshore Vessel used for platform support services. This vessel has a main crane that allows for the loading and unloading of materials and equipment.

THE SITUATION

Metalock Brasil was called in to repair a fault in the vessel's main crane, essential for its operation. The malfunction allowed the use of only the crane's secondary block, which had reduced lifting capacity.

The structure of the main crane boom's pulley block was damaged, likely due to impact, causing deformation and compromising the equipment's integrity and functionality, while also posing a risk to operational safety.

The company needed a quick and effective solution to prevent prolonged interruptions in their essential loading and unloading operations on platforms and/or FPSOs.



THE SERVICE

Metalock Brasil was hired to carry out the necessary maintenance. The service included several critical steps:

1. Straightening of the crane boom structure: The structure could not be removed to the workshop as the crane was still operating with the lower capacity secondary block. Therefore, a procedure was created to resolve the problem onboard. Only the pulley and its pin were taken to the workshop for repairs as they required machining services.

2. Transport and maintenance of the pulley: The damaged pulley was transported to Metalock's workshop in Rio de Janeiro. The specialized team at Metalock began the removal of the damaged pin and the repair of the pulley.

3. Manufacturing a new pin: Metalock manufactured a new pin according to the original manufacturer's design, ensuring that the technical and safety specifications were rigorously met. This involved identifying the equivalent material with the same mechanical strength and chemical composition.

4. Straightening and machining of the pulley: The pulley was straightened using a press, followed by correcting the residual deformation in a lathe during the machining process, ensuring precision and durability.

5. Installation of new bearing: After machining, a new bearing was installed, elevating the functionality and safety standards of the equipment.

6. Reinstallation and load testing: The crane structure was straightened onboard the vessel using special jigs developed by Metalock Brasil. The pulley and the new pin were reinstalled in compliance with the tolerances prescribed in the table for the bearing, model SL04 5026 PP. After installation, a load test was conducted using 35 T cap water bags, confirming the effectiveness of the maintenance.



THE RESULTS

The results of the maintenance performed by Metalock Brasil were very positive:

- Ensured safety: The maintenance guaranteed the structural integrity of the crane, eliminating the risk of failures during operations.
- Increased durability: The use of high-quality materials and precision machining increased the crane's durability.
- Compliance with standards: The welding and straightening procedures were submitted to and approved by the Classification Society, confirming compliance with the highest quality and safety standards in the naval industry.
- Minimized interruptions: The services were carried out during the vessel's scheduled stops, ensuring no operational time was lost for the client.