# CASE STUDY

## MARINE LOADING ARMS MODIFICATION TO REDUCE DOWNTIME DURING MAINTENANCE

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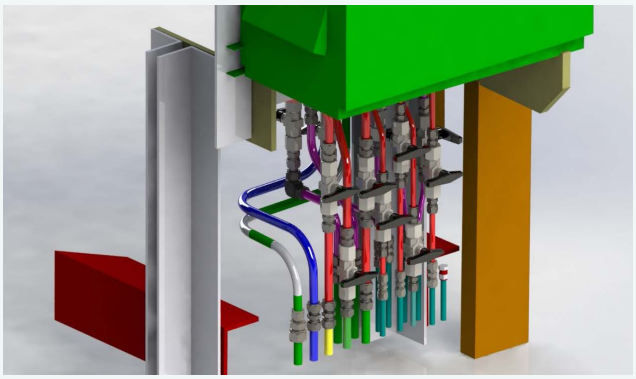
PRESSURE DYNAMICS

## INTRODUCTION

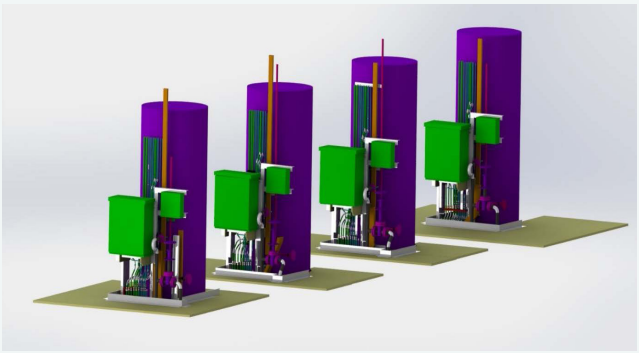
Pressure Dynamics modified the hydraulic systems of four LNG marine loading arms to improve maintenance flexibility and reduce operational downtime. The existing system required all arms to be taken out of service during maintenance, creating challenges during tight vessel loading schedules.

## PROCESS

The project began with a laser scan survey to capture the existing hydraulic tubing layout and surrounding structures. This data was used to develop accurate 3D models and engineering drawings to design the isolation valve modifications and ensure compatibility with the existing system.



Pressure Dynamics engineered the new hydraulic circuits to allow each marine loading arm to be isolated independently while maintaining system integrity. Stainless steel tubing assemblies were fabricated offsite, flushed and pressure tested before delivery to site. Detailed work packs, installation procedures and commissioning plans were developed to support safe and efficient execution during the shutdown window.



## OUTCOME

The modifications were successfully completed within the shutdown period, enabling each loading arm to be isolated independently. This improved maintenance efficiency, reduced operational downtime, and allowed the remaining arms to remain operational during servicing.