



## BRIEF OVERVIEW AND RELEVANCE

Pier 23 at NBPL was designed by others to accommodate a wide range of Navy vessels. The as-built conditions have resulted in several significant operational and personnel safety challenges, which required an assessment of the maritime, structural, mechanical, and electrical infrastructure to determine needed modifications to improve operations. Jacobs was contracted to lead a study focused on identifying solutions to address the operational deficiencies currently experienced at the pier.

### Teaming Partner(s) Involved:

Austin Brockenbrough & Associates, LLC – Fueling system design consultation



## Marine Loading Arms Re-design and Modification, Pier 23, NAVFAC Southwest

Naval Base Point Loma (NBPL), San Diego, CA

### PROJECT SCOPE

- Preliminary Design-level Assessment
- Operational Deficiencies Identification
- Fueling Operations Assessment at Six Vessel Classes
- Stakeholder Engagement
- Conduct Stakeholder Workshops
- Development of Numerous Conceptual Alternatives

### CHALLENGES

- While the design criteria for the new fuel pier called for the fueling infrastructure to suit a large range of Navy vessels, spatial restrictions made fueling infeasible and unsafe for some vessel classes.
- The project involved a highly complex, multi-disciplinary approach requiring detailed knowledge of Navy vessel mooring and berthing, fueling, and structural design. There were many moving parts and iterations performed throughout the study to ultimately find consensus on the recommended fuel pier modifications.

### KEY ACCOMPLISHMENT

Received all 'Exceptional' ratings on the CPARS evaluation and the client noted, "the subject of the project was a unique task and Jacobs was able to put a very professional team together with rich technical resources for every single angle of the project including fuel, structure, offshore and marine specialists."

Prepared highly complex visualizations of vessel positioning and Marine Loading Arm connections at the fuel pier allowing the client to better understand the challenges and risks associated with each alternative.

Developed a weighted alternative evaluation scoring system, in conjunction with the Navy team, using multi-disciplinary criteria to compare and recommend final alternatives to address each of the three deficiencies.