

**Project Name:** Naval Nuclear Power Training Unit Submarine Mooring

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**Organizations/People Involved:**

FPO-1: Bill Seelig, Andy Kurtz

**Date:** 1986

**Project Summary:**

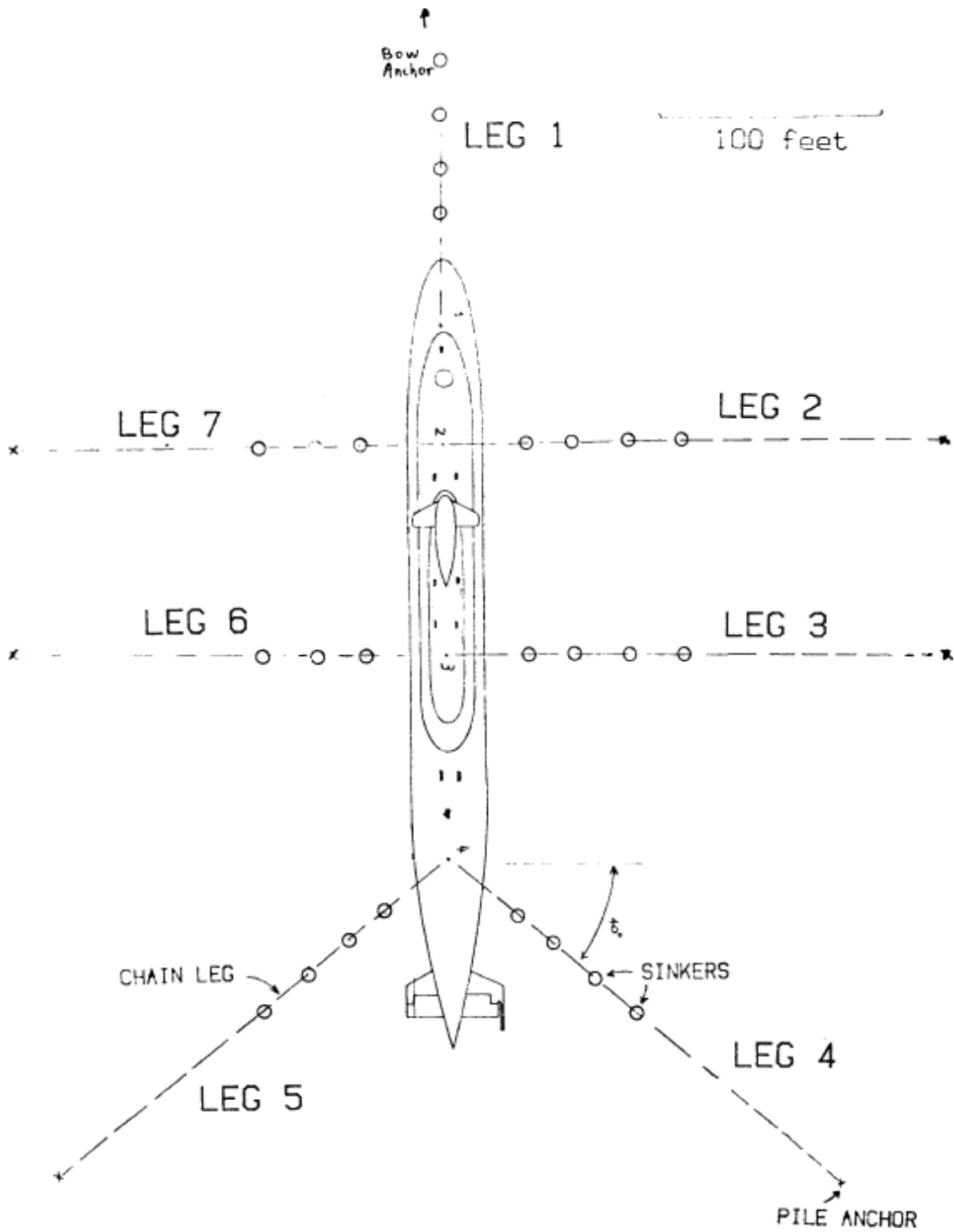
FPO-1 was tasked with design and installation of an operational/survival mooring for a submarine at Pier X-Ray at the Naval Nuclear Power Training Unit (NPTU) in Charleston, SC. The submarine was used by NPTU for training and had an active reactor. The purposes of the mooring were to minimize motions of the vessel during operational conditions, and safely restrain it during survival conditions (hurricanes, tornadoes, dam break, earthquakes, etc.). The project was part of the Pier X-Ray MILCON and was accomplished in close cooperation with SOUTHDIV NAVFAC.

The design criteria were extreme – CAT 5 hurricane, tornado with 290 mph rotational winds and 70 mph forward velocity, and dam break with 5 knot current.

The mooring design included seven legs that utilized pile anchors in addition to six lines to the pier.

The mooring was installed by contract.

**Project Report Link:** *Design of an Operational/Survival Mooring at Pier X-Ray, Charleston, SC* (FPO-1-86(14))



Mooring Configuration