

THE 190-TON STABLE SEMISUBMERGED PLATFORM (SSP)  
- A NEW CONCEPT IN MARINE TRANSPORTATION

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The SSP is a new type of ocean-going displacement craft which promises to provide a large improvement in motion reduction in rough seas compared with conventional monohulls, in addition to providing higher speed in waves, more deck area, and more internal volume. Various-sized versions of the SSP ranging from 200 tons up to 1,000 to 5,000 tons could be used to safely and efficiently transport people, automobiles, and many other kinds of cargo between the islands of Hawaii.

The unique feature of the SSP is its shape. It consists of two submerged, parallel, torpedo-like hulls which support a box-like structure above water by means of four streamlined, vertical, surface-piercing struts; fins are attached to the submerged hulls to provide dynamic stability. The fins are optionally controllable by automatic means to further reduce motion and provide a near-level ride in most sea states. The key to motion reduction is the small water-plane area of the SSP. The SSP is described in Appendix A which is ASME paper No. 73-WA/OCT-2 "Design and Development of the 190-Ton Stable Semisubmerged Platform (SSP)". This paper describes the design form and model test results, and presents information on the internal design and construction of the SSP.

The first self-propelled run of the SSP took place at idle speed on 25 October 1973, in Chesapeake Bay near the Coast Guard Yard at Curtis Bay, Maryland, where it was constructed. During the first days of tests on 19 November

1973 to achieve high speed, the SSP reached its maximum design speed of 25 knots after a series of highly successful low-speed runs.

The SSP type of design can be modified in shape for scaling up or down, and can be readily designed for speeds ranging up to 35 or 40 knots, especially in the larger versions. Since the waterline lies about half-way up the struts at all speeds, the craft is always at its design draft and should therefore provide a good, low-motion, dry ride at all speeds and in most sea states. The problems of cargo shifting and sea sickness should be greatly reduced relative to conventional craft. Large topside loads can be carried since the static stability can be increased by enlarging the vertical struts and spreading them apart to provide for any anticipated loading requirement.

It is believed that the SSP type of design would provide an excellent means of inter-island transportation for Hawaii. The large deck area and internal volume would be especially suitable for transporting people, automobiles, and other types of low-density cargo.