

RESEARCH VESSEL OPERATORS' COUNCIL

Summary Report of the  
1979 ANNUAL MEETING

Hosted by  
Scripps Institution of Oceanography  
Nimitz Marine Facility  
San Diego, California  
22-23 October 1979

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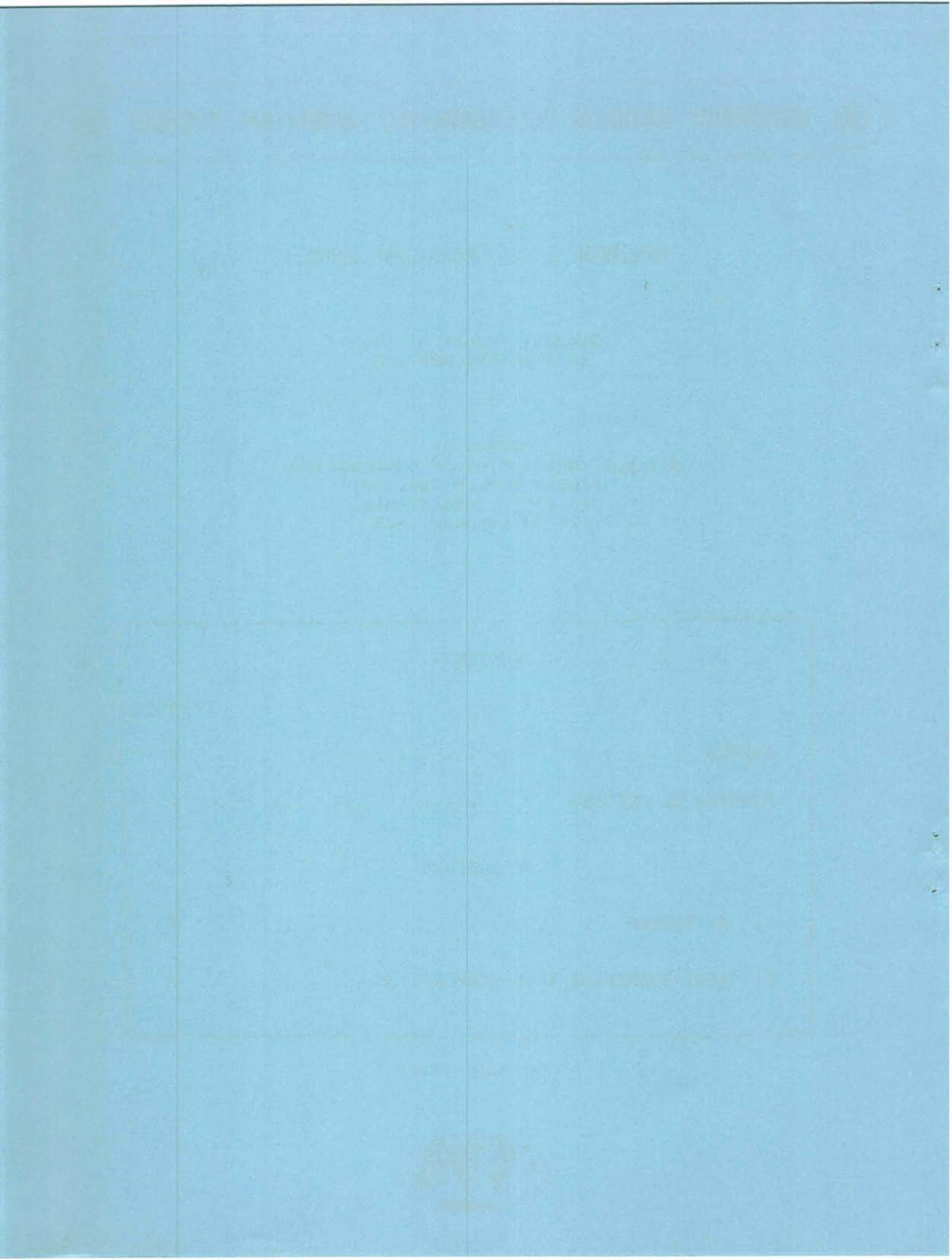
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OCTOBER 1979





## RESEARCH VESSEL OPERATORS' COUNCIL

1979 Annual Meeting, Nimitz Marine Facility  
Scripps Institution of Oceanography  
San Diego, California, 0900, 22-23 October 1979

### AGENDA

Report of 1978 Annual Meeting

*This report should be accepted; copies will be available*

Fuel: Rising Cost and Availability

*A general discussion*

Recent Developments in AGOR Manning

*Mr. James Gibbons, Capt. T.K. Treadwell*

Report on the Oceanographic Equipment Workshop

*Mr. Thomas Stetson*

Polar Research Vessel Progress

*Mr. Jon Leiby*

International Clearance Update

*Mr. William Erb*

Guest Speaker - Capt. Charles B. Bishop, Assistant Dir. MPL, Scripps

*Semi-submerged vessel design*

Coastal Research Vessel Progress

*Mr. James Gibbons*

Budget Outlook for 1980

*Comments by NSF representative*

IMCO Update

*Mr. Jon Leiby*

MSD Discussion

*Capt. R.P. Dinsmore*

Satellite Navigation and ATS Developments

Research Vessel Safety Standards

*Revision is underway*

Other

*Research Vessels MELVILLE, T. WASHINGTON, E.B. SCRIPPS will be available for inspection.*



UNIVERSITY - NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM  
RESEARCH VESSEL OPERATORS' COUNCIL

Summary Report  
of the  
1979 ANNUAL MEETING

General: Chairman Dean Letzring called the meeting to order at 0910 October 22, extending a welcome to those present. Capt. P. Branson welcomed the group on behalf of Scripps indicating luncheon would be served on R/V Thomas Washington and that R/Vs MELVILLE and E.B. SCRIPPS were available for inspection.

For a list of attendees with telephone numbers, see Appendix I.

1. Report of 1978 Annual Meeting. This report was made available to all at this meeting. To allow attendees opportunity to review it, the vote to accept it was postponed to the next day when it was accepted as written.

2. Fuel: Rising Cost & Availability. A general discussion developed, with various operators recounting recent experiences. D. Toporoski indicated his former Navy experience enabled him to obtain credit for Scripps' vessels in Honolulu and the Philippines. Interested persons may contact him. Lcdr. B. Cronyn, representing Navy, reiterated their willingness to help insofar as they could. The complication is that USN cannot sell direct but must fund through NSF which T. Forhan says is not set up for the accounting required. B. Cronyn made available a list of Naval fuel depots and stated he or Mr. David Reuscher could be reached at telephone number (601) 688-4890 for fuel related matters.

It was noted Brazil was levying a 30% tax on diesel (already at \$11 gal) for vessels not actively serving their ports. W. Erb

indicated Dept. of State might be willing to attempt some negotiation on behalf of research vessels regarding this tax.

W. Owen indicated U. of Delaware was able to charge differing rates to users depending on fuel consumption. Others indicated their university systems would not permit this.

3. Recent Developments in AGOR Manning. J. Gibbons recounted recent history leading to his report (29 Jan 1979) on manning to the Advisory Council. T. Treadwell, as chairman of UNOLS, has not yet transmitted the request (embodied in the report) to alter charter party agreements so that public vessels can be treated as such. Due to recent Navy reorganization it has been difficult to ascertain to whom such an appeal should be made. It is also unclear whether it should be a "class action" or requested vessel by vessel.

W. Erb mentioned that if a vessel was operated as a public vessel then State would necessarily handle all foreign clearances for it.

Difficulty in obtaining licensed personnel stems from several factors: 1) research vessel tonnage and horsepower do not attract personnel because service on such vessels will not aid in license upgrading, 2) industry, such as offshore supply, offers a much more attractive wage/benefit package than institutions can, 3) current median age of licensed personnel is approaching 52, and 4) a recent (Nov. 1978) Marad report, quoted by T. Stetson, projects that between 1978 and 1984 only an average of 383 deck officers and 259 engineers will be graduated annually from the maritime academies.

4. Oceanographic Equipment Workshop. T. Stetson reviewed events leading to the formation of the Technology Assessment Committee, whose organizational meeting was held October 24th. The members are: C. Tollios, ch., R. Mesecar, V-ch., L. Abbott, A. Driscoll, R. Gerard, J. Stasny, R. Williams, with T. Rossby as liaison with the Advisory Council.

T. Treadwell emphasized that this group in no way undercuts RVOC but is mainly focused on science interface considerations with the fleet.



5. Polar Vessel. J. Leiby reviewed progress with this vessel whose length is still fluctuating at about 210 ft. Recent tank tests with ice have resulted in lowering the rudders; the design now calls for diesel-electric propulsion. Meanwhile, ISLAS ORCADAS, ex-ELTANIN, has been returned to the Navy and a study of the costs involved in a refit are underway.

The earliest opportunity for a budget initiative for the new polar vessel would be FY 1982.

6. International Clearance Update. W. Erb mentioned he had received the U.S. Delegation's report of recent past negotiations re law of the Sea conference; it is available from him. Recent deliberations center on the legal extent of the OCS. He noted State had processed about 130 foreign clearances during 1978.

His office is currently working out accords with Mexico with a view to expediting clearances which at present require 180 days notice plus a complete personnel roster. Another concern is that personnel transit visas can only be issued after final clearance has been granted.

He noted both India and Equador are seeking cooperative programs with the U.S.

He observed the recent Ocean Policy Committee workshop held in September in Newport, Oregon was concerned that monitoring of post-cruise obligations be undertaken by the community itself, and in particular by UNOLS. There is grave concern that failure of one investigator to live up to the obligations initially agreed to would lead to repercussions for all.

7. Guest Speaker. Capt. Charles B. Bishop gave an illustrated talk on the design of a semi-submerged vessel. One has been built (1975) for the Navy and is based at Pearl Harbor. The SSP KAIMALINO can run at 25 kts, is 87' x 45' and weighs in at 200 tons. The designer's flyer is included as Appendix II for further information.

8. Coastal Research Vessel. J. Gibbons reviewed some of the history leading to the present award to the University of Miami to

seek bids on the construction of up to two coastal research vessels of the Gilbert and Matzer designs. These designs vary slightly but are expected to achieve 12 kts at 85% H.P., have twin screws powered by twin 398 Caterpillars. The first vessel could be built by March 1981.

9. Budget Outlook for 1980. T. Forhan presented the following figures, pointing out the recent figures reflect the retirement of MAURY and upcoming deactivation of GILLISS and ACONA or ALPHA HELIX. At this time the funds are not in hand and may be subject to further adjustments.

Funding Summary (\$M)

1977 - \$22,166	Actual	
1978 - 22,943	Actual	
1979 - 22,600	Estimated	
23,280	Actual	
1980 - Requested		Estimates of Available Funds
NSF 19,978		17,600
ONR 3,500		2,600
Other <u>4,838</u>		<u>4,701</u>
\$28,316		\$24,901

Additionally, a fuel cost add-on of approximately 1.2 million is requested. The above figures project a \$3.4M shortfall for 1980.

10. IMCO Update. In J. Leiby's opinion Intergovernmental Consultive Organization (IMCO) regulation of special purpose vessels, which includes research vessels as well as offshore drilling rigs and supply vessels, is many years off due to the nature of such deliberations which involve many different countries.

Proposals at present would apply only to vessels of 500 GRT or greater.

11. MSD Discussion. Some operators commented on the problems they had encountered with compliance with the regulation re marine sanitation



devices (MSD). R. Gerard mentioned the Matzer firm was against any of the currently available Type II models because of poor engineering. J. Leiby noted the test organization at Annapolis, Md. would be a good source of information and W. Reynolds, who has contact, offered to make the test results available. If any are forthcoming, the UNOLS' Office will distribute to all operators.

12. SATNAV & ATS Developments. In a general discussion of navigation by satellite it was noted that the new Global Positioning System (GPS) would not be "on-line" until the mid 1980's at the earliest. Twenty-four satellites will be required, allowing accuracies to within centimeters for military users and to within meters for civilian applications.

Several institutions are using time on the ATS system for ship-to-shore data transmission and are scheduled by Miami for this purpose. Unfortunately the FAA has instituted a new air traffic system for aircraft operating over 20,000 ft. and within 20 miles of certain major airports. This system's transmissions interfere with our data flow, but not vice versa.

An additional potential problem is that the NSF grant supporting the Miami installation expires 15 March 1980. A meeting to be held in November at Miami will address this and other problems associated with ATS use by UNOLS institutions.

13. R/V Safety Standards. Certain chapters of the "Standards", originally promulgated in May 1976, have been updated to reflect changes in regulations. Revised text was available and T. Stetson led the review of each chapter, adjusting the wording as required, before being formally adopted. Work will continue on the remaining chapters.

14. Other.

a) Mr. John Ludwigson was introduced. He is a free-lance writer, at the moment preparing an article on the fleet for NSF's MOSAIC magazine.

b) Capt. E. Nelson gave a brief narration of recent explorations of MONITOR, the civil-war iron-clad lost 16 miles SE of C. Hatteras in 210 ft. of water. The MONITOR marine sanctuary is under NOAA jurisdiction



and a survey conducted last August indicates it cannot safely be raised by conventional means. Artifacts will go on display, however.

c) Lcdr. B. Cronyn indicated the Navy was once again interested in participating in SOCC material condition reviews. Operating schedules for 1980 are now being solicited for publishing jointly with Navy and NOAA. He mentioned Navy may be using increased time on UNOLS' vessels; T. Stetson suggested they would be welcome.

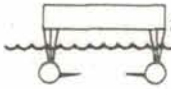
d) Adjourned at 1110, October 23, 1979.

Thomas Stetson  
Executive Secretary,  
UNOLS

RESEARCH VESSEL OPERATORS' COUNCIL  
Annual Meeting, 22-23 October, 1979

<u>NAME</u>	<u>AFFILIATION</u>	<u>TELEPHONE #</u>
John Ludwigson	freelance writer/NSF	(202) 783-2842
Dick Edwards	W.H.O.I.	(617) 548-1400 Ext. 2247
Bob Schelling	U. of Wash.	(206) 543-5648
Boyce Watkins	U. of Wash.	(206) 543-5062
Bob Williams	U. of Wash.	(206) 543-5648
Tom Forhan	NSF	(202) 632-4102
T.K. Treadwell	Texas A & M	(713) 845-7211
Dan Toporoski	S.I.O.	(714) 225-9600
Jack Bash	U.R.I.	(401) 789-1926
Cliff Buehrens	U.R.I.	(401) 789-1926
Cliff Tetzloff	U. of Mich.	(313) 763-3183
Brad Veek	U.S.C.	(213) 741-7735
W.G. Harkness	U. of Hawaii	(808) 847-2661
W.B. Clark	U. of Hawaii	(808) 847-2661
R.H. Ewing	U. of Texas	(713) 765-2173
E.E. Allmendinger	U. of N.H.	(603) 862-1383
Eric B. Nelson	Duke Univ.	(919) 728-2111
Jack Dullaghan	S.I.O. - retired	(714) 222-9871
Fred Rees	U. of Alabama, Dauphin Isl.	(205) 861-2141
Woody Reynolds	Naval Postgraduate Sch., Monterey	(408) 646-2974
Bill Erb	Dept. of State	(202) 632-0650
Jonathan Leiby	W.H.O.I.	(617) 548-1400 Ext. 2713
Bill Westphal	Occidental College	(213) 254-3808
Pete Branson	S.I.O.	(714) 452-2356
Dean Letzring	Texas A & M	(713) 744-3604
Tom Stetson	UNOLS	(617) 548-1400 Ext. 2352
Dolly Deiter	U. of Alaska	(907) 224-5261
C.R. Bishop	S.I.O.	(714) 452-2303
LCDR Brian Cronyn	Naval Ocean. Command	(601) 688-4890
R.G. Redmond	O.S.U.	(503) 867-3011
Wadsworth Owen	Univ. Delaware	(302) 645-4320





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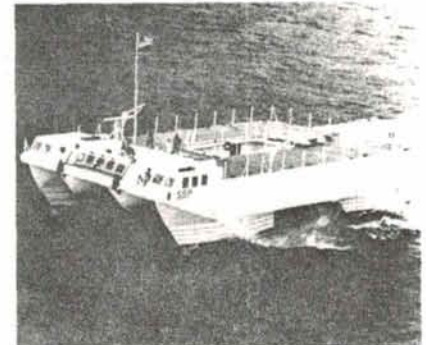
THOMAS G. LANG  
PRESIDENT

Introducing the SEMI-SUBMERGED SHIP CORPORATION (SSSCO)\* — — — —

— — a firm organized for the exclusive purpose of providing Semi-Submerged Ship design services  
— — — developing designs that will satisfy the customer's special requirements while attaining maximum benefit from the characteristic advantages inherent in a well-balanced design.

**BACKGROUND**

SSSCO was founded by Dr. Thomas G. Lang, inventor of a new semi-submerged ship concept called S<sup>3</sup>. Following private development, Dr. Lang introduced the concept into the U.S. Navy in 1968, and holds several basic patents on the subject. He led the Navy's first research work, and initiated and developed the hydro dynamic design for the highly successful range-support vessel, the SSP KAIMALINO, the world's first high-performance, open-ocean semi-submerged ship. The Navy's present SWATH (Small Waterplane Area Twin Hull) ship program is based on the S<sup>3</sup> concept.



**CAPABILITIES**

High-performance semi-submerged ships, although simple in concept, have many characteristic variables that require considerable theoretical understanding and design experience in order to fully optimize their inherent attributes of low hydrodynamic drag, greatly reduced motions, and sustained speed in waves.

In organizing SSSCO, Dr. Lang has brought together a group of highly capable S<sup>3</sup> design staff personnel whose collective semi-submerged ship design experience spans over 35 years. Staff disciplines include naval architecture, marine engineering, mechanical engineering, analysis, and hydrodynamics. Backed by additional technical support personnel, and when coupled with a computer program developed especially for generating the underwater hull forms, this experienced team will provide an optimally-performing S<sup>3</sup> design tailored to the customer's special requirements.

SSSCO design services cover the full spectrum of semi-submerged ship development, from the initiation of requirements definition, through delivery of the contract plans and specifications. In addition, SSSCO will build scaled tow-tank models, conduct tow-tank tests, and plan ship trials.

SSSCO is prepared to fulfill all or any part of your semi-submerged ship design needs, quickly, effectively, and at low cost.

Thomas G. Lang  
President

\*Pronounced "ESCO"

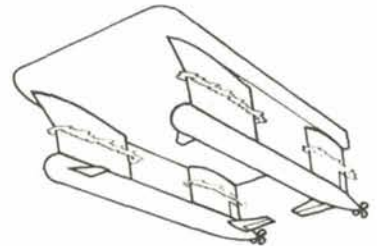
## THE SEMI-SUBMERGED SHIP (S<sup>3</sup>) CONCEPT

### DESCRIPTION

Basically an S<sup>3</sup> consists of two parallel, torpedo-like hulls located under the water surface, attached to two or more streamlined struts which pierce the surface and support an above-water platform. Stabilizing fins are attached near the after end of each hull, and an optional pair of smaller fins are located near the forward ends.

The S<sup>3</sup> is a proven technology, as demonstrated by the highly successful 200-ton, 25-knot SSP KAIMALINO, a range-support vessel designed and developed by the U.S. Navy. She has been operating in the rough seas of the Hawaiian Islands since 1975.

The only unusual aspect of an S<sup>3</sup> vessel design is its hull shape; consequently it can be built with presently available components and conventional construction technology. This unique hull configuration lends itself readily to modular construction methods in small, limited-facility shipyards.



### FEATURES

The performance features that set an S<sup>3</sup> apart from conventional vessels are greatly reduced motions with sustained speed even in heavy seas; lower hydrodynamic drag and reduced power requirements at moderate to high speeds; and far superior course-keeping characteristics at all sea headings. An S<sup>3</sup> has excellent maneuverability both at speed, and when operating in confined harbors or when station-keeping.

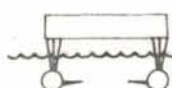
Additional features include high operational reliability due to its construction with conventional, proven components; large deck area and internal volume; and low construction and operating costs relative to other advanced high-performance marine vehicles. When designed specifically to handle large waves better or to attain higher speed, an S<sup>3</sup> should be smaller and less costly than a conventional-hulled vessel. With a comparable payload, an S<sup>3</sup> should provide greater productivity because of its ability to maintain schedules, or remain on station, even in adverse weather conditions.

### APPLICATIONS

An S<sup>3</sup> is best suited for low-motion, large-deck-area applications. Typical vessel designs will include:

- Offshore Supply / Personnel Transport
- Undersea Vehicle / Diver Support
- Coastal / Oceanic Research
- Rapid Response / Emergency Standby
- Exclusive Economic Zone Patrol
- Passenger Cruise / Excursion
- Seismic / Hydrographic Survey
- Containership / Container Shuttle
- Range Support / Utility
- Passenger / Vehicle Ferry
- Commercial / Sport Fishing
- Logistic / Helicopter Support
- Private Pleasure Craft

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