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# Marine Physical Laboratory

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### Continuation of AUSS and ATV Support Services

**Frederick H. Fisher**

Final Report to the  
Office of Naval Research  
Contract N00014-89-D-0142 (DO#27)  
For the Period 01-29-92 - 01-28-93

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University of California, San Diego  
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### *Abstract*

The Marine Physical Laboratory provided ship support services and technical support to the MARSEA-15 for NOSC projects Advanced Unmanned Search System (AUSS) and Advanced Tethered Vehicle (ATV). These programs are of direct interest to MPL in our research areas of autonomous and tethered vehicles. Dr. Frederick Fisher interacted and provided consulting on a no-cost basis as required by NOSC.

### *Research Objectives*

The objective of the effort is to provide support services to AUSS and ATV. ATV is a tethered vehicle which is able to do a variety of underwater work and salvage and recovery operations in the deep ocean. AUSS is an untethered, free-swimming vehicle system designed to conduct deep ocean search operations. AUSS is in the test, evaluation and demonstration phase of the program where as the ATV has recently completed test evaluation and the demonstration phase. The services provided included power, security, berthing, crane and rigging support; shop support to assist in shipboard installation and removal of project equipment

### *Research Results*

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This contract was executed through MPL because it gave MPL personnel the opportunity to learn at sea how tethered and untethered vehicle operations are conducted. The principal beneficiary of these interactions was Mr. Terry Hoopes, Officer-in Charge of the Research Platform ORB, at the time and now Officer-in-Charge of the Research Platform FLIP. During the time he was working on the MARSEA 15, Mr. Hoopes acquired beneficial personal experience.

Our own long range goals included working with SUBDEVGRU 2 and with Dr. Robert Ballard in such operations. The experience has given us excellent preparation for future operations of this kind. There were substantive benefits to both parties. In particular the detailed system (equipment) check list, the pre-launch check list, launch check list, and a recovery and shut-down check list was important for us to learn about. Also, the use of a wireless headset leaving both hands free for personnel. In five or six locations, it was clear that we could no longer conduct our work at sea with hand sets in rough weather. We could have avoided an injury at sea on the fantail of the USNS NARRAGANSETT during a deployment in rough weather with a wireless headset.

This contract was of mutual benefit to both parties

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