National Oceanographic and Atmospheric Administration,
National Science Foundation
&
Office of Naval Research

Guidelines for Utilization and Development of Third-Party Tools for the National Deep Submergence Facility Vehicles

December 3, 1997

Background:

Sensor technology developments have provided critical capabilities to measure and sample deep sea floor processes and materials. Over the past few decades the development of various types of sampling and sensor equipment for use in the deep ocean has revolutionized our understanding of chemical, biological and geological processes. As science becomes increasingly sophisticated and new tools are developed, it is important to transition some tools to the existing inventory at the Deep Submergence Facility (DSF). This document provides guidelines for the development, transition, and maintenance of such tools.

Third-Party Tools:

There are two broad categories of tools used by scientists who use the vehicles at DSF. The first category is the group of equipment provided by DSF, which is part of the standard complement of science tools on the vehicles. The second category is equipment which is developed and held by scientists for their research program, and provided to DSF for use during their deep submergence field work. This latter type of equipment is a Third-Party Tool. Third-Party Tools can be further subdivided into two classes based on their intended use:
a) Tools developed for a specific project are called Project-Specific Third Party Tools.
b) Tools that have application and utility for many scientists are called General-Use Third Party Tools.

With the appropriate technical review, tools that have broad scientific application should be considered for addition to the standard tools provided by the DSF for use on the deep submergence vehicles.

Project-Specific Third-Party Tools:

When a project-specific third-party tool is intended for use on a DSF vehicle, the scientist must ensure that all interface requirements such as; physical, electrical, and operational aspects of the tool are compatible with the general specifications of the vehicle used. The costs associated with the construction, use, maintenance, and repair of the tool are supported by the scientist. DSF will provide technical and safety information regarding the vehicle systems to the scientist to allow them to design and build the tool. Depending on the capability of the tool and its potential use for other science programs, the scientist may opt to do the following:
a) make the tool available to other users, which can include a user fee.

b) have the tool considered for adoption by DSF as part of the standard complement of science equipment provided to the user community. The tool then becomes a General-Use Tool.

General-Use Third-Party Tools:
There are two ways to develop a General-Use Third Party Tool. First, transition a Project-Specific Tool to general use, and second, develop a new general use tool. In the second case, a scientist may propose the development of a tool for use on DSF vehicles that has the potential to be useful to a broad spectrum of deep ocean field investigations.

Investigators who intend to submit a proposal for developing a General-Use Third-Party Tool for use on a deep submergence vehicle are encouraged to submit a proposal summary to the DESSC and DSF, prior to submission to a federal agency. The scientific and technical merit of the proposed tool, its operational viability, integration with vehicle systems and impact on vehicle safety, and its general applicability to a wide spectrum of deep submergence facility users are important issues that the developer must address with DESSC and DSF. They will evaluate the information provided and respond with a letter to the investigator with comments and suggestions in a timely fashion. This feedback can be used by the investigator when submitting a formal proposal for the tool development. Proposals for developing third-party tools must comply with requirements for proposal submittal of the agency to which the proposal is being submitted.

University-National Oceanographic Laboratory System
DEEP SUBMERGENCE SCIENCE COMMITTEE
Third-Party Tool Guidelines
December 3, 1997

1. Investigators considering submitting a proposal for developing a Third Party Tool are encouraged to contact the DSF vehicle operator for technical and safety information regarding the vehicle systems. Technical information and contact names are posted on the WHOI-DSOG website (http://www.marine.whoi.edu/marops).

2. Investigators are urged to submit a proposal summary letter to the DESSC Technology Subcommittee for initial comment and review. The Subcommittee and the vehicle Operator will evaluate the information provided and respond with a letter to the investigator with comments and suggestions.

3. The following criteria will be considered by DESSC in providing advice to the national funding agencies if a tool is to become a General-Use Tool: community demand, a technical and operational review by the vehicle Operator, and the costs associated with the routine use and maintenance of the tool.

4. Unless otherwise specified and accommodated for, the responsibilities of the National Deep Submergence Facility Operator with respect to Third-Party Tools do not go beyond providing detailed interface specifications, evaluating safety and operational requirements, assisting with

the installation of equipment in the field, and cooperating on testing and operation of the equipment in the field. At-sea repair, maintenance and spare parts for Third-Party Tools are to be provided by the user or designated technician funded by the scientist.

5. The DESSC will report the status of Third Party Tools to the community at the annual general meeting. A summary of Third-Party Tools and their developers will be maintained by DESSC and made available with on-line information provided by UNOLS-DESSC and, where applicable, linked via the web to the DSF website.