A PROPOSAL SUBMITTED FOR 1977-78

U. C. SEA GRANT COLLEGE PROGRAM SUPPORT

To: James J. Sullivan
Program Manager
Sea Grant College Program, A-032
University of California, San Diego
La Jolla, California 92093

Via: ________________________________ Research Office
(your campus)

PROJECT TITLE:

PROJECT LEADER(S):
Name ____________________________ H. Ramsey Perks
Department ____________________________ Marine Technology
Campus/Institution ____________________________ Santa Barbara City College

AMOUNT OF EXTRAMURAL FUNDS REQUESTED: $20,720

GRANTEE MATCHING FUNDS CONTRIBUTED: $200,176


SIGNATURES:

H. Ramsey Perks
PROJECT LEADER:

Marine Technology Department Chairman
Department or Institute Approval:

Campus Approval:
NARRATIVE

MARINE DIVING TECHNICIAN TRAINING PROGRAM

Project Leader: H. Ramsey Parks

Associate Staff: Robert W. Christensen (Sabbatical Leave 1977-78)
Gerald L. Clouser
James G. Parker
H. Ramsey Parks

Introduction

In order to keep the Marine Technology Program at Santa Barbara City College in pace with the continual advances in technology and capabilities of the industry, we are in the process of developing a complete bell/saturation diving system. We are well on our way to realizing this goal, almost totally from industrial support. At present we have acquired most of the components including a bell and deck chamber with lock-on capabilities, control van, environmental control, diver heating and life support equipment. This has been made possible due to the generous support of companies such as Ocean Systems Inc., Delco Electronics/General Motors Corporation, Kinertetics Inc., Lindbergh Hammar Associates, Haskell Engineering and Supply Co., Linde Division of Union Carbide Corp., and Exxon. However, to complete the system we will need a diesel-driven hydraulic power unit for the bell launch and retrieval system and a larger air compressor to supply the needs of the system. The acquisition of these two vital components will make it possible to complete the bell/saturation system and assure the Marine Technology Program at Santa Barbara City College continues to meet the needs of the marine industry.
Work to Date

The Marine Technology Program at Santa Barbara City College began its tenth year of instruction in September 1977. The primary objective of the program is to train qualified Marine Diving Technicians for the offshore industry. The majority of the graduates of the program are employed by the large commercial diving companies and work in conjunction with the worldwide exploration for and development of offshore petroleum resources. Employment opportunities and subsequent job success have continually been excellent since the program began. Employment varies only slightly from year to year, averaging near or exceeding 90%. Those few who are not employed usually chose not to enter the industry or continue their education at a four-year institution. Many of the graduates are in supervisory positions after as little as two years in the field. Some of the earlier graduates are now in top level administrative positions.

Approach to be Used

The bell/saturation deep diving system is approximately 90% complete. The bell is operational and tested. It currently is being used for student training in one of our diving-training tanks prior to scheduled off-shore training dives this fall. The deck chamber with lock on capabilities for the diving bell is completed, including environmental control (heat, humidity and CO₂). The control van from where the entire system is monitored and controlled is approximately 90% complete and operational at this time. Construction of a new facility for the program on the main campus is to start before the end of September 1977. The facility is specifically designed to support all current and projected future diving training including the bell/saturation system. Completion is scheduled for the end of the 1977-78 school year at a cost of $623,400.
The plumbing, testing, and other tasks necessary to complete the bell/saturation system are being accomplished utilizing student participation under the supervision of the Marine Technology Instructors. The estimated value of the system will be in excess of $300,000. Funding for the hydraulic power unit and a compressor will allow the acquisition of the remaining two major components to complete the bell/saturation deep diving system.

Associated Work

The Marine Technology Program has continually maintained close liaison with various university campuses, particularly U.C.S.B. Marine Technology students have worked on occasional university projects, such as the investigation of natural petroleum seepage off Coal Point near the U.C.S.B. campus. Graduates of the program are working as Marine Technicians at both the U.C.S.B. Marine Science Institute and the U.S.C. Marine Science Center on Catalina Island. U.C.S.B. candidates for "Certified Diver" received a pressurized test in one of our decompression chambers and a familiarization with commercial diving equipment and procedures at our facility as part of their training. We look forward to possible future cooperative University Sea Grant projects, particularly in areas where the bell/saturation deep diving system can be utilized.

Need for the Project

The success of graduates of the program attests to the need for the project. In order to continue to train qualified personnel for the industry, we must keep pace with the state of the art. The completion of the bell/saturation deep diving system will enable us to accomplish this objective.
Budget Justification

The justification of this proposal, as previously indicated, is based upon the need to acquire this equipment to complete the system. This will allow us to continue to train the students to meet the needs of the industry and current and future manpower requirements.
References

OBJECTIVES: (abstract)

To prepare qualified Marine Diving Technicians to meet the continuing needs of the offshore industry.

To constantly evaluate feedback from the Marine Technology Advisory Committee, resulting in a broad spectrum curriculum that is continually updated and revised to ensure that the graduates of the program meet current industrial needs and standards.

The curriculum is designed to give the student a basic understanding and knowledge of the marine environment and to develop the skills currently required of a diving technician. Included in the curriculum are general education courses designed to increase the student's knowledge and communicative ability.

HOW INFORMATION WILL BE APPLIED (Be specific):

The program essentially trains environmental technicians. This training enables the graduate to help fill the expanding manpower needs in the offshore industry, making offshore work safer and more efficient, and as a result, more compatible with the environment. Criteria established by this program will serve as useful guidelines for others.

ACCOMPLISHMENTS DURING PAST TWELVE MONTHS (Not more than one sentence per accomplishment):

1. Continuing high rate of placement of graduates of the program.
2. Success of graduates once employed by the offshore industry.
3. Ability of program to keep pace with the industry as it extends its capabilities and technology.
4. Continual growth of industrial recognition and support of the program.
## A. SALARIES AND WAGES

### 1. SENIOR PERSONNEL
- **a. PROJECT LEADER**
  - Department Chairman
  - H. Ramsey Parks
    - **ASSOCIATE**
      - 1) FACULTY
        - 5
        - 35.0
      - 2) STAFF
    - SUB TOTAL
      - 77,384

### 2. OTHER PERSONNEL
- **a. RESEARCH ASSOCIATES**
  - 1) FACULTY
    - 2) STAFF
    - SUB TOTAL
      - 5,200

- **b. SECRETARIAL/CLERICAL**
  - .5
  - 6
  - SUB TOTAL
    - 7,630

- **c. TECHNICAL**
  - .6
  - 7.2
  - SUB TOTAL
    - 7,630

- **d. OTHER**
  - .5 Consultants
    - .5
    - 600

### 3. STUDENTS
- **a. GRADUATE (R.A.'s)**
  - SUB TOTAL
  - **b. UNDERGRADUATE (HOURLY)**
    - 4
    - SUB TOTAL
      - 4,308

**TOTAL SALARIES & WAGES**

### B. FRINGE BENEFITS (WHEN CHARGED AS DIRECT COST)
- TOTAL SALARIES, WAGES, FRINGE BENEFITS
  - 110,373
<table>
<thead>
<tr>
<th>Permanent Equipment</th>
<th>Extramural Funds</th>
<th>Grantee Share</th>
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<tbody>
<tr>
<td>Diesel Driven 45 Gal/min 2000 psi Hydraulic Power Unit</td>
<td>8,000</td>
<td>*</td>
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<tr>
<td>Diesel Driven 120 Cubic feet/min two stage Air Compressor</td>
<td>12,720</td>
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<thead>
<tr>
<th>Expendable Supplies &amp; Equipment</th>
<th>Total Equipment</th>
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<tr>
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<td>20,720</td>
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<td>8,981</td>
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<tr>
<th>Travel</th>
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<tr>
<td>Domestic - U.S. It's Possessions $125</td>
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<td>International</td>
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<tr>
<th>Publications and Documentation Costs</th>
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<tbody>
<tr>
<td>Equipment and Facilities Rental</td>
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<tr>
<td>Equipment Repair</td>
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| Total Other Costs | 43,974 |

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<th>Total Direct Costs (A Through G)</th>
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| Indirect Costs (on Campus 33% of Wages/Salary) | 36,423 |
| (off Campus % of /) |

| Total Indirect Costs | 36,423 |

| Total Costs | 20,720 | 200,176 |

Number of Sea Grant Trainees Requested for this Project: 0

* Santa Barbara City College General Fund, Budget Series #3800

Source of Matching Funds

It is required that all matching funds be identified by name, account and/or fund number. Use an asterisk to identify and enter appropriate description below.

* Santa Barbara City College General Fund, Budget Series #3800
A. SALARIES AND WAGES

1. Senior Personnel
   a. 1 - Principal Investigator
      (1) H. Ramsey Parks
          Department Chairman and
          College Diving Officer
          II-12 plus 2 months
          Half time instruction
          Half time Department Chairman
          Plus 2 months 7/12 x 26,145 = 15,251

   b. 4 - Faculty Associates
      (1) H. Ramsey Parks 5.0 10,894
      (2) Gerald L. Clouser 10.0 18,222
      (3) Jim G. Parker 10.0 21,370
      (4) Robert W. Christensen (sabbatical leave) 17,898
      (5) Hourly (Sabbatical leave Replacement) 10.0 9,000
      Totals 35.0 77,384

2. Other Personnel (Non-faculty)
   a. Research Associates
   b. 1 - Senior Secretary
      Kathleen A. Gebhardt
      12 months, half time 5,200
   c. .6 - Property Custodian/Technician
      Thomas Onley
      12 months, 60% 7,630
   d. 1 - Consultant 600

3. Students
   a. Graduate
   b. 4 - Undergraduate (hourly) 4,308

TOTAL SALARY AND WAGES $110,373