

AD-750 736

DEEP SUBMERGENCE SYSTEMS TERMINOLOGY
AND USAGE

Northrop Corporation

Prepared for:

Deep Submergence Systems Project Office

30 June 1970

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE
5285 Port Royal Road, Springfield Va. 22151

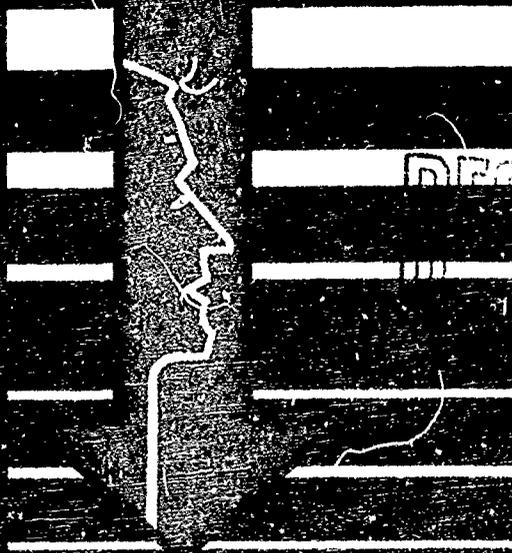
DAFORM 0000



STATEMENT A
APPROVED FOR PUBLIC RELEASE
DISTRIBUTION UNLIMITED

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. Department of Commerce
Springfield, VA 22151

U.S. NAVY



DSSP

AD 750736

DEEP SUBMERGENCE SYSTEMS

TERMINOLOGY AND USAGE

DSSP TD-19

REV. B

D D C
RECEIVED
OCT 19 1972
B

Under Contract N00024-70-C-0201
this document was prepared by
and is stocked at:

Northrop Corporation
Electro-Mechanical Division
8728 Colesville Road
Silver Spring, Maryland 20910

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited



DEPARTMENT OF THE NAVY
DEEP SUBMERGENCE SYSTEMS PROJECT OFFICE
6900 WISCONSIN AVENUE
CHEVY CHASE, MARYLAND 20015

IN REPLY REFER TO

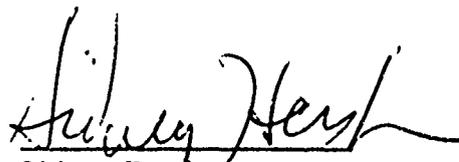
30 June 1970

CLASSIFICATION: UNCLASSIFIED

DSSP TD-19
REV. B

DEEP SUBMERGENCE SYSTEMS TERMINOLOGY AND USAGE

1. This document presents terminology and usage peculiar to the Deep Submergence Systems Project (PM11). The document is intended to serve as a reference and guide for government and contractor organizations engaged in the preparation of manuals, technical documents, drawings, and other material for DSSP (PM11).
2. Revised line statements and new entries or additions are denoted by a vertical black line drawn at the right hand edge of the page to indicate the changed contents.
3. Existing documentation and drawings should not be revised solely to conform with this document. However, such material revised after publication of TD-19 should, where practical, conform to this approved terminology and usage.
4. This publication supersedes and cancels DSSP TD-19, Revision A, dated 24 July 1969. *NO JUNE 1970*


Sidney Hersh
By Direction

DISTRIBUTION:

See attached list

DISTRIBUTION LIST

Project Manager (PM11)
Deep Submergence Systems Project Office
Department of the Navy
6900 Wisconsin Avenue
Chevy Chase, Maryland 20015

Commander
Naval Ship Systems Command
Department of the Navy
Washington, D.C. 20360
(ATTN: PMS-381) (2)
PMS-832) (2)

PM11-01
PM11-002
PM11-003 (2)
PM11-004
PM11-006
PM11-10
PM11-11
PM11-12
PM11-13
PM11-14
PM11-15
PM11-20
PM11-201
PM11-202
PM11-203
PM11-204
PM11-21
PM11-22
PM11-23
PM11-24
PM11-25

Commander
Naval Undersea Research &
Development Center
San Diego, California 92132 (4)

Commander
Naval Ship Research and
Development Center
Annapolis Division
Annapolis, Maryland 21407
(ATTN: Code 628)

Commander
San Francisco Naval Shipyard
San Francisco, California 98314
(ATTN: LCDR C. Saches, Code 215)

Commander
Mare Island Naval Shipyard,
Vallejo, California 94592
(ATTN: Code 280, P.A. Green)

Chief of Naval Operations
The Pentagon, Room 4E660
Washington, D.C.
(ATTN: OP-030)

Commander
Puget Sound Naval Shipyard
Bremerton, Washington 98314
(ATTN: C.R. Chamberlin)

Chief of Naval Material
Main Navy Building, Room 2010
Constitution Avenue, N.W.
Washington, D.C.
(ATTN: MAT 027)

Commander
Long Beach Naval Shipyard
Long Beach, California 90801
(ATTN: Code 240
CDR V.W. Panciera)

Commander
Submarine Development Group ONE
Fleet Post Office
San Francisco, California 96601 (3)

Commanding Officer
Naval Strategic Systems Navigation
Facility
Flushing and Washington Avenues
Brooklyn, New York 11251
(ATTN: Code 956) (2)

Commanding Officer
Naval Ship Research & Development
Center
Washington, D.C. 20034
(ATTN: Code 015.4)

Commanding Officer
Naval Ship Research & Development
Laboratory
Panama City, Florida 32401
(ATTN: Code P-710S/M) (2)

Officer-in-Charge
Navy Experimental Diving Unit
Navy Yard
Washington, D.C. 20360

Officer-in-Charge
Fleet Missile Systems Analysis
and Evaluation Group
Corona, California 91720
(ATTN: Code E603)

Astro Nautical Research, Inc.
103 Erie Street
Cambridge, Massachusetts 02139
(ATTN: H.R. Whitman)

General Dynamics Corporation
Electric Boat Division
Eastern Point Road
Groton, Connecticut 06340
(ATTN: C. Utz
G. Mahoney)

Lockheed Missiles and Space Company
Post Office Box 504
Sunnyvale, California 94088
(ATTN: DSRV Program Manager (3)
DSSV Program Manager) (3)

Lockheed Missiles and Space Company
Post Office Box 504
Sunnyvale, California 94088
NAVPLANTREP SPL-35

Massachusetts Institute of Technology
Charles Stark Draper Laboratory
148 Sidney Street
Cambridge, Massachusetts 02139
(ATTN: Brian L. Cuevas) (3)

NORTHROP CORPORATION
Electro-Mechanical Division
8728 Colesville Road
Suite 900
Silver Spring, Maryland 20910
(ATTN: J.W. Jenkins) (12)

NORTHROP CORPORATION
Electro-Mechanical Division
500 East Orangethorpe Avenue
Anaheim, California 92801
(ATTN: J. Radigan)

Portsmouth Naval Shipyard
Portsmouth, New Hampshire
(ATTN: E. Swartz)

Supervisor of Salvage (OOC)
Naval Ship Systems Command
Department of the Navy
Washington, D.C. 20360

U.S.N. Supervisor of Shipbuilding
Thames Street
Groton, Connecticut



U.S.N. Supervisor of Shipbuilding
Ingalls Shipbuilding Corporation
Pascagoula, Mississippi 39567
(ATTN: CDR Palmieri)

U.S.M. Supervisor of Shipbuilding
Newport News Shipbuilding & Drydock
Company
Newport News, Virginia 23600
(ATTN: J. Bolling)

C-141A Project Engineer
Warner Robins Air Force Base
Warner Robins, Georgia 31093
(ATTN: WRNEW/Mr. H.T. Howell)



CONTENTS

1.0	INTRODUCTION	Page 1
2.0	REFERENCES	1
3.0	CHANGES	1
4.0	TERMINOLOGY AND USAGE . .	2

1.0 INTRODUCTION

The purpose of this document is to provide a basic reference of the terminology and usage peculiar to the U.S. Navy's Deep Submergence Systems Project (PM1).

Military activities, contractor organizations, equipment lists of specific systems, general oceanographic terms, basic ship designations, and other information that is readily available in other publications is not normally included.

2.0 REFERENCES

For terminology of specific items of equipment not listed in this document the reader is directed to nomenclature and equipment lists for the various systems and subsystems. In addition, the following documents are recommended for terminology and usage in fields related to deep submergence systems development and operations.

Assistant Secretary of the Navy (Research and Development).
Department of the Navy RDT&E Management Guide. Washington, D.C.: Government Printing Office, 1 July 1969. (NAVSP P-2457)

Joint Chiefs of Staff. Dictionary of United States Military Terms for Joint Usage. Washington, D.C.: Government Printing Office, 1 August 1968. (JCS Pub. 1)

U.S. Naval Oceanographic Office. Glossary of Oceanographic Terms. Washington, D.C.: Government Printing Office, 1965. (SP-35)

3.0 CHANGES

Proposed additions and corrections to this document should be addressed to the Systems Engineering Support Contractor:

Northrop Corporation
Electro-Mechanical Division
8728 Colesville Road
Suite 900
Silver Spring, Maryland 20910

Where appropriate, full data such as formal name, informal name, abbreviation, AN/number, definition, and preferred usage should be included with the proposed change.

If a change to an existing entry is proposed, the justification for the change should be presented, citing published sources when possible. Additions and corrections will be made on a yearly basis in July.

4.0 TERMINOLOGY AND USAGE

Words, terms, acronyms, and abbreviations are listed in the index (far left) position in all capital letters except that informal names are in capital and lower-case letters.

The word "defined" in parenthesis after a word or term indicates a definition is provided under the formal name listing.

In general, lists of equipment or systems should use the formal name. The first time equipment or a system is mentioned in a narrative the formal name should be used, possibly with the informal name being given immediately after in parenthesis. Subsequent mention of the equipment could then use the informal name.

Definitions are given under the formal name entry. The formal name entry also contains the informal name and usage notes, if any.

Terminology applicable to a specific system or subsystem or having more than one meaning has each PM11 application numbered. This sequential arrangement does not indicate preference.

ABSOLUTE VELOCITY LOG, SONAR, DOPPLER

Informal Doppler Sonar

Term Deleted. See DOPPLER SONAR SET

ADS

Altitude/Depth Sonar

See SOUNDING SET, SONAR, ALTITUDE/DEPTH

ADS

ADVANCED DIVING SYSTEM

Term used for commercial deep diving systems (e.g., ADS-IV).

AFT SPHERE

Aftermost sphere of a multisphere deep submergence vehicle.

The AFT SPHERE of the DSRV carries survivors from disabled submarines.

(Rear sphere is incorrect usage.)

Also see PRESSURE CAPSULE.

ALARM PHASE

Phase of deep submergence operations that begins with the attempt of a disabled submarine to signal the need for rescue and ends when the proper naval authorities know the Deep Submergence Rescue System is to be used.

Alerting BUOY

See BUOY, ALERTING

Alternate Applied Training Facility

Classrooms and maintenance laboratories for instruction of deep submergence vehicle operational and maintenance personnel, selected Mother Submarine crew members, and Rescue Control Center personnel until the DSAT facility is constructed.

Altitude/Depth Sonar

See SOUNDING SET, SONAR, ALTITUDE/DEPTH

AMF

ASHORE MAINTENANCE FACILITY

AMTS

AQUANAUT AND MATERIAL TRANSPORT SYSTEM (defined)

AP/DDA

Auto Pilot/Digital Differential Analyzer

See COMPUTER GROUP, STABILIZATION DATA

AQUANAUT

A saturated diver taking part in a seafloor operation.

AQUANAUT AND MATERIAL TRANSPORT SYSTEM (AMTS)

Diver transport vehicles and material transport vehicles to support Aquanauts.

AQUANAUT EQUIPMENT

See CAVE, INTERIM

ARAWAK

See BREATHING APPARATUS

ARC

Designation for radio sets.

ASR

Navy ship designation for SUBMARINE RESCUE SHIP.

ASR CAPTURE ARMS

Armlike devices extending from the DSRV to engage cables suspended from the surface support ship during underwater retrieval of the DSRV.

ASR Diving System

See DEEP DIVING SYSTEM

BALLAST SYSTEMS

Means of maintaining desired buoyancy or stability in a deep submergence vehicle or seafloor habitat.

1. The DSRV has a MERCURY TRIM AND LIST system that uses liquid mercury pumped between compensated tanks to maintain trim angle, set list angle, vary center of gravity, and dampen roll.
2. The DSRV has a RESCUEE BALLAST system that transfers water ballast carried in the mid and aft spheres to compensate for the weight of survivors taken on board from a disabled submarine.
3. The DSRV has MAIN BALLAST and VARIABLE BALLAST systems that use soft and hard tanks, respectively, open to the sea to help maintain the required vehicle buoyancy. The MAIN BALLAST tanks provide positive buoyancy and are completely flooded when the DSRV is submerged.
4. The DSRV has a TRANSFER BALLAST system that provides a means to dewater the mating skirt during mating operations.
5. The SEALAB habitat uses water ballast to aid in lowering operations and to help maintain position on the seafloor.

BEACON SET, SONAR
AN/BQN-13

Informal Submarine Distress Pinger

BIBS

BUILT-IN BREATHING SYSTEM (Defined)

BINNACLE

See STABLE PLATFORM ASSEMBLY, INERTIAL NAVIGATOR

BIRDCAGE

See STRUCTURE, INTERNAL SUPPORT

-B-

BOUNCE DIVE

A short-duration dive that requires no additional decompression beyond the depth to which the diver is saturated.

BQC

Designation for sound communications equipment mounted in submarines, underwater vehicles, and seafloor habitats. Also see UQC and WQC.

Formal COMMUNICATION SET, SONAR

Informal Underwater Telephone

1. DSRV has AN/BQC-3 (COMMUNICATIONS SET, SONAR)
2. ASR-21 Class has AN/BQC-1 (for use in Submarine Rescue Chamber)
3. SEALAB III habitat has AN/BQC-1

BQN

Designation for underwater sound navigation equipment.

DSRV equipment in this category includes:

AN/BQN-7 TRANSPONDER SET, SONAR, TRACKING
(Tracking Transponder)

AN/BQN-8 TRANSPONDER SET, SONAR, HOMING
(Homing Transponder)

AN/BQN-9 INTERROGATOR SET, SONAR (Transponder
Interrogator Sonar)

AN/BQN-10 SOUNDING SET, SONAR, ALTITUDE/DEPTH
(Altitude/Depth Sonar)

AN/BQN-11 DOPPLER SONAR SET
(Doppler Sonar)

AN/BQN-13 Reacon Set, Sonar (Submarine Distress
Pinger)

BQR Designation for underwater listening equipment.

DSRV equipment includes AN/BQR-18 RECEIVING SET, SONAR, DIRECTIONAL LISTENING (Directional Listening Hydrophone Set)

BQS Designation for underwater sound equipment for detecting and/or determining range and bearing.

DSRV equipment in this category includes:

AN/BQS-16 DETECTING-RANGING SET, SONAR, VERTICAL OBSTACLE (Vertical Obstacle Sonar)

AN/BQS-17 DETECTING-RANGING SET, SONAR, SHORT RANGE (Short Range Sonar)

AN/BQS-18 DETECTING-RANGING SET, SONAR, HORIZONTAL OBSTACLE (Horizontal Obstacle Sonar)

BRC Designation for submarine radio set.

The DSRV has AN/BRC-3 radio set.

BREATHING APPARATUS Equipment to provide breathing gas directly to a diver rather than through his environment.

See: BUILT-IN BREATHING SYSTEM
HOOKAH
SCUBA

BSH Designation for submarine electronic recording equipment.

The DSRV has AN/BSH-3 RECORDER-REPRODUCER SET, SIGNAL DATA (Speech and Data Recorder).

BUBBLE LINE

The specified air/water interface level that has to be established in the Submarine Escape Trunk prior to opening escape hatch during submarine escape.

BUILT-IN BREATHING SYSTEM (BIBS)

Emergency individual breathing apparatus in submarines, deep submergence vehicles, and seafloor habitats.

BUOY, ALERTING

Informal Alerting Buoy

BUOY, MESSENGER

Informal Messenger Buoy

Tethered buoy released by a submarine in distress. The buoy carries a 7/16" CRES cable to the surface to be used as a downhaul wire for the Submarine Rescue Chamber.

BUOYANCY RINGS

Large floatation devices attached to a SEALAB habitat to increase positive buoyancy during surface handling operations.

BUOYANCY TRANSPORT DEVICE

Mobile device for moving material and equipment along the ocean floor with the lift provided by the device's buoyancy; for use in underwater construction and salvage.

BYQ

Designation for submarine data processing computer.

The DSRV has CP-1022/BYQ COMPUTER, SIGNAL DATA GENERATOR (Central Processing Computer Set)

CA

COORDINATING ACTIVITY

CABLE-CONTROLLED UNDERWATER RESEARCH VEHICLE (CURV)

Unmanned, tethered underwater vehicle developed by the Naval Undersea Research and Development Center to locate and recover torpedoes and other objects from the ocean bottom.

1. CURV I has a 2,000-foot design depth capability.
2. CURV II has a 2,500-foot design depth capability.
3. CURV III has a 7,000-foot design depth capability.

CAMERA, TELEVISION, RIGHT ANGLE

Informal Right Angle Television Camera

Television camera with right-angle lens.

CART

COMPLETE ASSEMBLY AND READY FOR TEST

Point at which Deep Submergence Rescue Vehicle is transferred from fabrication to test phase.
(Lockheed Missiles and Space Company term)

CAVE

CONSOLIDATED AQUANAUT VITAL EQUIPMENT

Integrated equipment suit to provide saturated diver (Aquanaut) with (1) breathing gases, (2) thermal protection, (3) biological protection, (4) mechanical protection, (5) navigation data, (6) depth measurement, (7) visual observation aids, (8) stability aids, (9) electric power.

CDDR

COORDINATED DESIGN DATA REQUIRED

Note on coordination drawings indicating the absence of specific data required to complete the interface definition process.

CENTRAL PROCESSING COMPUTER (CPC)

See COMPUTER, SIGNAL DATA GENERATOR

CENTRAL PROCESSING COMPUTER CONTROL AND DISPLAY PANEL

Formal Control-Indicator, Computer

See COMPUTER, SIGNAL DATA GENERATOR

CLAMSHELL HELMET

A free flooding helmet with a hinged faceplate containing an oral-nasal cavity. The helmet usually contains a built-in microphone, earphones, and a second stage regulator. Also called Diver's Helmet.

Clock and Transponder Release Panel

See PANEL, CLOCK AND TRANSPONDER RELEASE

CLUMP

Anchoring element placed on the sea floor.

COLLAPSE DEPTH

The depth at which the hull of a submarine or a submersible will collapse due to pressure. Generally designed to be 1 1/2 times the operating depth.

COMBINED TEST GROUP (CTG)

A group of representatives of cognizant military and contractor activities involved in test plans and procedures who have been chartered specific responsibility thereto.

COMMUNICATION SET, SONAR

Informal Underwater Telephone

See BQC

CONVERTER GROUP, SIGNAL DATA, HORIZONTAL OBSTACLE OU-52/BQS-18

Informal Horizontal Obstacle Sonar Analyzer

See DETECTING-RANGING SET, SONAR, HORIZONTAL OBSTACLE

COMPUTER GROUP, STABILIZATION DATA

Informal Ship Control Computer Group

DSRV ship control computer; this group includes:

- (1) Computer, Stabilization Data, Digital (AP/DDA),
- (2) Computer, Stabilization Data, Analog

COMPUTER RECORDER-REPRODUCER

See RECORDER-REPRODUCER, SIGNAL DATA

COMPUTER SET, SIGNAL DATA GENERATOR

Informal Central Processing Computer Set

DSRV general-purpose digital computer and its related equipment. This set includes: (1) Computer, Signal Data Generator, (2) Recorder-Reproducer, Signal Data, (3) Tape Electronic Data Processing, Programmed, (4) Control-Indicator, Computer.

COMPUTER, SIGNAL DATA GENERATOR CP-1022

Informal Central Processing Computer (CPC)

See COMPUTER SET, SIGNAL DATA GENERATOR

COMPUTER, STABILIZATION DATA, ANALOG

Informal Ship Control Electronics

See COMPUTER GROUP, STABILIZATION DATA

COMPUTER, STABILIZATION DATA, DIGITAL

Informal Auto Pilot/Digital Differential Analyzer
(AP/DDA)

See COMPUTER GROUP, STABILIZATION DATA

CONCURRENT EVALUATION

An evaluation combining OPEVAL and TECHEVAL into one operation.

CONTINENTAL SHELF

Zone adjacent to a continent or island from the low water line to the depth at which there is usually a marked increase of slope to greater depth; the continental shelf area is generally considered to extend out to a depth of 600 feet (100 fathoms).

U. S. Navy operational requirements for the continental shelf generally have been extended to a depth of 850 feet.

CONTROL, COMMUNICATION SET AN/BQC-3

Informal Underwater Telephone Remote

Remote controls for a deep submergence vehicle underwater telephone.

CONTROL-INDICATOR	Control and display component for equipment; refer to specific equipment.
Control Shroud	See SHROUD, CONTROL
CONTROL SPHERE	Pressure sphere of a deep submergence vehicle, which houses the pilot(s) and primary controls. Also see PRESSURE CAPSULE.
CONTROL STICK ASSEMBLY	Operator's two control sticks for sail planes, rudder, and thrusters of NR-1.
CONTROLLER, HAND, ROTATIONAL	<p><u>Informal</u> Rotational Hand Controller</p> <p>Operator's control stick for rotational motion of deep submergence vehicle.</p> <p>("Joystick" is incorrect usage)</p>
CONTROLLER, HAND, TRANSLATIONAL	<p><u>Informal</u> Translational Hand Controller</p> <p>Operator's control stick for translational motion of deep submergence vehicle.</p> <p>("Joystick" is incorrect usage)</p>
CO ₂ SCRUBBER	System or device to remove carbon dioxide from atmosphere or breathing gas.
CP-1022/BYQ	Central Processing Computer
CPC	See COMPUTER, SIGNAL DATA GENERATOR

CREW All personnel-operational and maintenance-
assigned to a deep submergence vehicle.

CRUISE MODE Deep submergence vehicle operating at cruising
forward speed.

DSRV mode of operation with full control by its
shroud, thus, not requiring operation of the
vehicle's ducted thrusters.

CTFM CONTINUOUS-TRANSMISSION, FREQUENCY MODULATED

Generic term for specific type of echo-ranging sonar
equipment.

CTG COMBINED TEST GROUP (defined)

CURV CABLE-CONTROLLED UNDERWATER RESEARCH VEHICLE (defined)

DDA DIGITAL DIFFERENTIAL ANALYZER

See COMPUTER, STABILIZATION DATA, DIGITAL

DDC DECK DECOMPRESSION CHAMBER (defined)

DDS DEEP DIVING SYSTEM (defined)

DDTV DRY DIVER TRANSPORTATION VEHICLE (defined)

DECK DECOMPRESSION CHAMBER (DDC)

Chamber in surface support ships to maintain divers at working depth pressure between work periods and for general and saturation diving decompression.

1. The Deep Diving System MK I has two interconnected DDCs, which can be maintained at different pressures.
2. The Deep Diving Systems MK2 MOD 0 and MOD 1 each have two separate DDCs.

DECK OPERATIONS CONTROL STATION (DOCS)

Location on surface support ship that monitors and controls deck operations associated with diving or rescue missions.

DECOMPRESSION CHAMBER ROOM

Compartment in surface support ship that houses Deck Decompression Chamber (DDC) and Main Control Console (MCC) of Deep Diving System (DDS).

DEEPALT

DEEP SUBMERGENCE SYSTEMS PROJECT ALTERATION (defined)

DEEP DIVING SYSTEM (DDS)

Integrated system to support general and saturation diving; includes (1) Deck Decompression Chamber (DDC), (2) Personnel Transfer Capsule (PTC), (3) Main Control Console (MCC), (4) Strength-Power-Communications Cable (SPC CABLE), (5) related gas stowage, piping, etc.

1. The DDS MK I is an air-transportable system intended primarily for use on board Salvage Tugs (ATS).
2. The DDS MK 2 MOD 0 is installed in the range support ship ELK RIVER (IX-501).
3. The DDS MK 2 MOD 1 is intended for installation in ships of the ASR-21 class.

DEEP OCEAN TECHNOLOGY (DOT) PROGRAM

Program designed to advance the technology leading to occupation and exploitation of the deep ocean; includes power sources, structural materials, propulsion systems, hydraulic systems, etc.

DEEP OCEAN TRANSPONDER (DOT)

Expendable devices dropped onto the ocean floor to mark locations and serve as navigation beacons.

DEEP SUBMERGENCE APPLIED TRAINING (DSAT) FACILITY

Classrooms and maintenance laboratories for instruction of deep submergence vehicle operational and maintenance personnel, Rescue Control Center personnel, selected Mother Submarine crew members, and Rescue Control Center personnel.

DEEPAIT

DEEP SUBMERGENCE SYSTEMS PROJECT ALTERATION (defined)

DEEP DIVING SYSTEM (DDS)

Integrated system to support general and saturation diving; includes (1) Deck Decompression Chamber (DDC), (2) Personnel Transfer Capsule (PTC), (3) Main Control Console (MCC), (4) Strength-Force-Communications Cable (SPC CABLE), (5) related gas stowage, piping, etc.

1. The DDS MK I is an air-transportable system intended primarily for use on board Salvage Tugs (ATS).
2. The DDS MK 2 MOD 0 is installed in the range support ship ELK RIVER (IX-501).
3. The DDS MK 2 MOD 1 is intended for installation in ships of the ASR-21 class.

DEEP OCEAN TECHNOLOGY (DOT) PROGRAM

Program designed to advance the technology leading to occupation and exploitation of the deep ocean; includes power sources, structural materials, propulsion systems, hydraulic systems, etc.

DEEP OCEAN TRANSPONDER (DOT)

Expendable devices dropped onto the ocean floor to mark locations and serve as navigation beacons.

DEEP SUBMERGENCE APPLIED TRAINING (DSAT) FACILITY

Classrooms and maintenance laboratories for instruction of deep submergence vehicle operations and maintenance personnel, Rescue Control Center personnel, selected Mother Submarine crew members, and Rescue Control Center personnel.

DEEP SUBMERGENCE SYSTEMS PROJECT ALTERATION

Change to PM11 equipment or manuals intended for Fleet use after acceptance by the government.

DEI DESIGN ENGINEERING INSPECTION

DEPLOYMENT Movement of a support ship or submarine transporting a deep submergence system from the loading port to the operating area, support of the system operations in the area, and return to port. Also see MISSION, SORTIE

Depth Pressure Transducer

See TRANSDUCER, PRESSURE, DEPTH

DETECTING-RANGING SET, SONAR, HORIZONTAL OBSTACLE (HOS) AN/BQS-18

Informal Horizontal Obstacle Sonar

Sonar that sweeps in the deck plane to detect objects forward of a deep submergence vehicle; the sonar's display indicates range and bearing from the vehicle.

DETECTING-RANGING SET, SONAR, SHORT RANGE (SRS) AN/BQN-17

Informal Short Range Sonar

Sonar that indicates precise definition of underwater objects at relatively close range; designed to locate the escape hatches of submarines.

DETECTING-RANGING SET, SONAR, VERTICAL OBSTACLE (VOS) AN/BQS-16

Informal Vertical Obstacle Sonar

Sonar that sweeps in a plane perpendicular to the deck to detect objects forward of a deep submergence vehicle; the sonar's display indicates range and elevation from the vehicle.

DETECTOR, WATER LEVEL	<p><u>Informal</u> Water Level Detector</p> <p>A sonic device for determining the level of water within a submerged object; indication is external to the object.</p>
DEWATERING SYSTEM	See BALLAST SYSTEMS
Directional Gyro	See GYROSCOPE, DIRECTIONAL
Directional Listening Hydrophone	See RECEIVING SET, SONAR, DIRECTIONAL LISTENING
DISSUB	DISTRESSED SUBMARINE (defined)
Distress Fingert	See BEACON SET, SONAR AN/BQN-13
DISTRESSED SUB	<p>(DISSUB)</p> <p>A submarine disabled on the ocean floor at less than collapse depth and unable to surface under its own power.</p>
Diurene Suit	See THERMAL PROTECTIVE SUIT
Diver's Helmet	See CLAMSHELL HELMET
DIVING STATION	Main staging room for diving operations in a sea-floor habitat.
DIVER'S UNDERWATER OMNI-SYSTEM	<p>(DUOS)</p> <p>An underwater navigation system to enable a diver to determine his location and heading in a given work area.</p>

DLH Directional Listening Hydrophone
See RECEIVING SET, SONAR AN/BQR-18

Docking Transponder See TRANSPONDER, DOCKING

DOCS DECK OPERATIONS CONTROL STATION (defined)

DONUT FAIRLEAD A fitting located on submarine hatch through which messenger buoy cable is routed.

DOPPLER SONAR SET AN/BQN-11
Informal Doppler Sonar
Sonic device that provides indication of vehicle fore-aft and port-starboard ground speeds when near ocean floor; calculated from doppler frequency shifts in bottom-reflected sonic beams.

DOT 1. DEEP OCEAN TECHNOLOGY (defined)
2. DEEP OCEAN TRANSPONDER (defined)

DRY DIVER TRANSPORTATION VEHICLE (DDTV)
Submersible vehicle capable of underwater transport of divers in a dry environment.

DSAT FACILITY DEEP SUBMERGENCE APPLIED TRAINING FACILITY (defined)

DSRV DEEP SUBMERGENCE RESCUE VEHICLE

DSSV

DEEP SUBMERGENCE SEARCH VEHICLE

Ducted Thruster

See THRUSTER, DUCTED

DUOS

DIVER'S UNDERWATER OMNI-SYSTEM (defined)

-E-

EASE ESCAPE AND SURVIVAL EQUIPMENT (defined)

ELECTRIC WIRE SUIT See THERMAL PROTECTIVE SUIT

ENTRY LOCK Separately pressurized extension of diver's pressurized habitat that provides access between the pressurized and unpressurized environments.

ENTRY SKIRTS Access trunks located beneath the hatches of SEALAB habitat to facilitate entry and allow nominal changes in adjacent water level without water entering the habitat proper.

ESCAPE AND SURVIVAL EQUIPMENT (EASE)
Equipment for individual escape from a disabled submarine on the ocean floor and subsequent survival on the ocean surface.

ESCAPE HATCH A second smaller hatch located on the Submarine Escape Trunk used for unassisted personnel escape and ascent; also see RESCUE HATCH.

ESCAPE SYSTEM See SUBMARINE ESCAPE AND SURVIVAL SYSTEM

ESCAPE TRUNK See SUBMARINE ESCAPE TRUNK

EXCURSION DIVE Movement by a saturated diver below his saturation depth requiring no additional decompression.

FAILURE OR INADEQUACY REPORT (FIR)

Document that reports troubles, failures or inadequacies experienced with equipment or documentation subsequent to its being offered for government acceptance.

FUEL CELL POWER SYSTEM (FCPS)

Power supply system composed of gaseous hydrogen and oxygen which produces electrical power for the DSSV.

FIELD JOINTS

Two-part circular ring in a deep submergence vehicle's outer hull that opens, "breaking" the vehicle to allow access to internal components.

FIR

FAILURE OR INADEQUACY REPORT (defined)

FORWARD SPHERE

Foremost sphere of a multisphere deep submergence vehicle. Control Sphere is preferred usage if the foremost sphere houses the vehicle's primary controls. Also see PRESSURE CAPSULE.

-G-

GYRO SHELF Plate on which rate gyro assembly, directional gyro, and vertical gyro are mounted.

GYROSCOPE ASSEMBLY, RATE

Informal Rate Gyro Assembly

An assembly containing three rate gyros, one fixed to each of three orthogonal vehicle axes, which continuously monitor the vehicle's angular rates. Component of the Gyroscope Assembly Group.

GYROSCOPE, DIRECTIONAL

Informal Directional Gyro

A single degree of freedom gyro measuring a vehicle's angular change around its input axis. Component of the Gyroscope Assembly Group.

GYROSCOPE, VERTICAL

Informal Vertical Gyro

Gyro that provides roll and pitch data. Component of the Gyroscope Assembly Group.

HABITAT Dry-atmosphere chamber on or near the ocean floor to support saturated divers (Aquanauts) during bottom operations. The internal pressure is maintained at the ambient water pressure to provide free movement to and from the open water.

Handling Equipment Equipment to facilitate moving, loading, transporting, and unloading deep submergence vehicle. HANDLING AND TRANSPORTATION EQUIPMENT is maintained at the vehicle's home port and SHIPBOARD HANDLING EQUIPMENT is maintained aboard the surface support ship.

HANDLING TRAINING VEHICLE (HTV)

Device that approximates the dimensions and weight of a specific deep submergence vehicle for use in movement, loading, and unloading training.

Hatch Marker See TARGET, SONAR

Hauldown Winch Winch mounted on a positively buoyant underwater vehicle or device for pulling the vehicle or device down against its positive buoyancy.

The DSRV has a HAULDOWN WINCH mounted in its mating skirt to provide downhaul force during final mating with a bottomed submarine.

The PTC has a HAULDOWN WINCH for hauling the capsule to the ocean floor against its positive buoyancy; the winch is slung from a trapeze at the bottom of the PTC. Can also be used for paying out to allow capsule to rise.

HATCH, REPLACABLE LIFTING

Device attached to the hatch structure of a disabled submarine to provide an attachment point for lifting during salvage operation.

HIS	Hood Inflation System (British)
HISR	Hooded Immersion Suit Raft
Hold-down Staples	See Submarine Rescue Chamber Staples
HOME PORT	Base at which a system or vehicle is normally maintained. Also see RESCUE UNIT HOME PORT.
Homing Transponder	See TRANSPONDER SET SONAR, HOMING AN/BQN-8
HOOKAH	Underwater breathing apparatus with breathing gas supplied to diver from an external source and exhaled gas returned through umbilical hose. Named for resemblance to Turkish water pipe. ARAWAK is trade name for HOOKAH device manufactured by Westinghouse Electric Corporation. Also used for certain supply hoses without a return hose feature.
HORIZONTAL OBSTACLE SONAR	
	See DETECTING-RANGING SET, SONAR, HORIZONTAL OBSTACLE
HOS	Horizontal Obstacle Sonar
	See DETECTING-RANGING SET, SONAR, HORIZONTAL OBSTACLE
HOT WATER SUIT	See THERMAL PROTECTIVE SUIT
HOVER MODE	Submarine or deep submergence vehicle operating with little or no forward motion.

HTV

HANDLING TRAINING VEHICLE (defined)

HYDROSTAT

Mode of operation with a Personnel Transfer Capsule (PTC) with the internal environment maintained at one atmosphere to enable its use as an observation chamber by unpressurized personnel

ICAD INTEGRATED CONTROL AND DISPLAY EQUIPMENT (defined)

IMC VANS INTEGRATED MEDICAL AND COMMAND VANS (defined)

INERTIAL NAVIGATOR GROUP

Informal Inertial Navigator

Assembly of binnacle and associated electronics, exclusive of computer, that generates navigation data for a deep submergence vehicle.

Consists of (1) Stable Platform Assembly, Inertial Navigator, and (2) Control Electronics, Inertial Navigator.

INITIAL OPERATIONAL CAPABILITY (IOC)

Date at which a system can first perform its assigned task.

The IOC for the Rescue Program is the date on which two Deep Submergence Rescue Vehicles (DSRV), the required support facilities, and a support ship are available.

INITIAL RENDEZVOUS AND MATING

Phase of deep submergence rescue operation that begins when the distressed submarine has been located by the Deep Submergence Rescue Vehicle and ends when the first mating of the DSRV with the distressed submarine has been completed. Also see RESCUE MISSION SEQUENCE.

IN-SITU EXPERIMENTS

Experiments conducted in the environment; i.e., underwater or in the open sea.

INTEGRATED CONTROL AND DISPLAY EQUIPMENT (ICAD)

Integrated computing, control, and display equipment for deep submergence vehicles. A man-machine interface and signal processing capability is provided for the vehicle's propulsion, maneuvering control, ballast, and jettison systems.

INTEGRATED MEDICAL AND COMMAND VANS (IMC VANS)

Mobile vans that can be installed onboard a surface support ship to form an integrated monitoring and command center for Man-in-the-Sea experiments. The Command Van has communication links to the surface support ship, seafloor habitat, and shipboard Deep Diving System, plus engineering, environmental, and oceanographic data recording facilities. The Medical Van has extensive medical laboratory facilities and can perform limited atmospheric and psychological monitoring of seafloor activities.

INTERIM AQUANAUT EQUIPMENT

See SCUBA MK 11 MOD 0

INTERIM RESCUE UNIT HOME PORT (IRUHP)

Location where the first Deep Submergence Rescue Vehicle is housed and supported until such time as the first Rescue Unit Home Port (RUHP) is activated. The Interim Rescue Unit Home Port will be capable of supporting the DSRV-1 and DSRV-2 for use on rescue and alternate missions.

INTEGRATED TEST PLAN

Plan for the Phase B Test Program including subsystem operability tests, system interface tests, and system operability tests necessary to obtain certification and acceptance.

INTERROGATOR-RECEIVER SET, SONAR, THREE DIMENSIONAL AN/SQQ-25

Informal Three-Dimensional Sonar

Sonar equipment in a surface support ship that provides range, depression angle, and bearing to an acoustic source by measuring the difference in arrival time of acoustic returns to each hydrophone of a hydrophone array.

INTERROGATOR SET, SONAR AN/BQN-9

Informal Transponder Interrogation Sonar

Sonar fitted in a deep submergence vehicle to interrogate underwater transponders.

INVESTIGATION PHASE

Phase of deep submergence vehicle operation during which objects previously located and are approached and observed with sensors that can determine detailed characteristics of the object. This phase includes (1) launch of vehicle from support ship or submarine, (2) descent of vehicle to investigation area, (3) navigation/homing on object, (4) observation of object, (5) marking of object (if necessary), (6) ascent of vehicle, (7) retrieval of vehicle by support ship or submarine.

IOC INITIAL OPERATIONAL CAPABILITY (defined)

IRUHP INTERIM RESCUE UNIT HOME PORT (defined)

ITP INTEGRATED TEST PLAN

IX Navy ship designation for MISCELLANEOUS UNCLASSIFIED.

The ELK RIVER (IX-501) is the range support ship for the San Clemente Island Range.

LAND TRANSPORT VEHICLE (LTV)

Flat-bed semitrailer for transporting deep submergence vehicles over improved surface roads; air transportable.

LARGE OBJECT SALVAGE SYSTEM (LOSS)

Integrated system for salvaging large objects from depths to 850 feet.

LEVELING LINES

Lines used to maintain the position of a seafloor habitat during lowering operations.

LIFE SUPPORT SYSTEM

Equipment in a deep submergence vehicle, seafloor habitat, or deep diving system to support human life in an alien environment; provides breathing gases, contaminant removal, temperature and humidity control, etc.

LOCAL TEST GROUP (LTG)

Subcommittee of the Combined Test Group (CTG) formed to carry out day-to-day operations during the conduct of tests.

LOCALIZATION PHASE

Phase of deep submergence rescue operations that begins when one Deep Submergence Rescue Vehicle and one DSRV support ship or Mother Submarine are in the area of the distressed submarine and that ends when the distressed submarine has been located by the DSRV. Also see RESCUE MISSION SEQUENCE.

Location Pinger

See BEACON SET, SONAR

LOCATION SYSTEM

System to provide submarines with radio and acoustic communication and location capability by means of a Location Pinger and a tethered radio buoy. The buoy is released at the option of the submarine commanding officer when the submarine is bottomed at less than its collapse depth and released automatically if the submarine's collapse depth is exceeded.

LOSS

LARGE OBJECT SALVAGE SYSTEM (defined)

LTC

LOCAL TEST GROUP (defined)

LTV

LAND TRANSPORT VEHICLE (defined)

MAIN CONTROL CONSOLE (MCC)

Component of a Deep Diving System that monitors and controls operation of the Deck Decompression Chamber(s) and Personnel Transfer Capsule(s), and coordinates communications.

MAN-IN-THE-SEA (MITS)

Program to develop improved capabilities for manned operations on the ocean floor with the concept of saturation diving. Also see SATURATION DIVING.

MAN-IN-THE-SEA IN-SITU TEST PROGRAM

A phase development and operational program to develop and evaluate a mounted diving system with support equipment.

MARK I

See Deep Diving System

MARK 2

See Deep Diving System

MARK VI

See SCUBA

MARK VIII

See SCUBA

MARK IX

See SCUBA

MARK 10

See SCUBA

MARK 11

See SCUBA

MATING

Operation wherein two watertight/gastight devices are joined together mechanically or by differential pressure to form a watertight/gastight seal, thus enabling personnel transfer between the devices. The following is a list of mating combinations:

MATING (Cont)	<ol style="list-style-type: none"> 1. DSRV to Submarine 2. SRC to Submarine 3. PTC to DDC 4. DSRV to DDC
MATING SKIRT	Hemispheric protrusion beneath a deep submergence vehicle's bottom hatch, which seals over a submarine's rescue hatch. The skirt is pumped dry of water to allow the submarine's hatch to swing up into skirt cavity and personnel to pass to or from the vehicle.
MCC	MAIN CONTROL CONSOLE (defined)
McCann Chamber	See SUBMARINE RESCUE CHAMBER
Messenger Buoy	See BUOY, MESSENGER
MID-BODY	Cylindrical section of a deep submergence vehicle's outer hull between the major forward and aft field joints.
MID-SPHERE	Center sphere of a 3-sphere deep submergence vehicle. The MID-SPHERE of the DSRV carries survivors from disabled submarines. (Center sphere is incorrect usage.) Also see PRESSURE CAPSULE.
MISSION	Those activities undertaken by a deep submergence vehicle or system during a sortie of a surface support ship or submarine. Also see SORTIE, DEPLOYMENT.
MITS	MAN-IN-THE-SEA (defined)

MOTHER SUBMARINE (MS) Nuclear-powered submarine modified to transport and support a deep submergence vehicle. A component of the Operational Ships System.

MOTHER SUBMARINE CHECKOUT EQUIPMENT

Equipment loaded aboard a Mother Submarine to test components of a deep submergence vehicle during support operations.

MPU MAIN PROPULSION UNIT

MS MOTHER SUBMARINE (defined)

Navigational Data Plotter

See TRACER, DEAD RECKONING

NOC

NOTICE OF CHANGE (defined)

NOTICE OF CHANGE (NOC)

Approved change to a coordination drawing; also see PNOC.

NR-1

NUCLEAR-POWERED, DEEP SUBMERGENCE RESEARCH AND OCEAN ENGINEERING VEHICLE

OBJECT LOCATION AND SMALL OBJECT RECOVERY (SEARCH) PROGRAM

Program to provide for the location and recovery of small objects on the ocean floor.

OPERATING TEAM

Personnel who operate a deep submergence vehicle on a specific mission cycle; the operator is included in the vehicle's crew. Also see CREW.

OPERATIONAL EVALUATION (OPEVAL)

Test Evaluation to determine the ability of a system, component, or equipment to meet operational performance requirements specified in SORs, TDPs, Design Specifications, and other development guidelines to establish suitability for service use.

OPERATIONAL SHIPS SYSTEM

Informal Support Ships

Operational surface support ships and submarines that support a specific deep submergence system.

OPEVAL

OPERATIONAL EVALUATION (defined)

OPTICS EQUIPMENT

Equipment in a deep submergence vehicle that provides direct optical viewing outside of the vehicle; includes the vehicle's viewports, lights, and camera equipment.

PHASE B TESTS	Test phase that demonstrates that two or more subsystems meet their performance requirements; may involve testing in an operating environment.
PHASE C TESTS	Test phase that consists of a series of planned operations by a system to determine capabilities and task times and to verify and develop optimum mission sequences.
PIGGYBACK	Transportation mode in which deep submergence vehicle is secured to the deck of a Mother Submarine.
PINGER, SUBMARINE DISTRESS	Transponder near escape hatch in a submarine activated internally by submarine personnel. See BEACON SET, SONAR.
PMS	PLANNED MAINTENANCE SYSTEM
PNOC	PROPOSED NOTICE OF CHANGE (defined)
PQC	Designation for portable underwater sound communications equipment. The AN/PQC-3 is a diver-carried sonic communications device compatible with communications equipment in the SEALAB habitat.
PRESSURE CAPSULE	Structure to protect men and equipment from the ambient underwater environment; generally has an internal environment at one atmosphere. Pressure <u>capsule</u> is preferred usage for deep submergence vehicles. Pressure <u>sphere</u> indicates a spherical shape (e.g., three pressure spheres form the Deep Submergence Rescue Vehicle's pressure capsule).

PRESSURE HULL	Pressure resistant structure, other than hard structure, including reinforced openings, penetrations and hatches, that experiences high differential pressure from submergence and that provides space for personnel.
PRESSURE SPHERE	See PRESSURE CAPSULE
PROPOSED NOTICE OF CHANGE	(PNOC) Proposed notice of change to a coordination drawing.
PTC	PERSONNEL TRANSFER CAPSULE (defined)
PTC/AQUANAUT HEAT SYSTEM	A system designed to provide hot water for a PTC space heater or an Aquanaut thermal protection suit of the hot water type.
PTC SPACE HEATER	A device or system for heating the inside of a PTC.

RECORDER REPRODUCER SET, SIGNAL DATA, COMPUTER

Informal Computer Recorder-Reproducer

RECOVERY PHASE

Phase of deep submergence vehicle operation for recovery of an object from the ocean floor. Includes (1) launch of vehicle from support ship or submarine, (2) descent of vehicle to recovery area, (3) attachment of recovery device to object, (4) lift of object (including breakout from bottom), (5) ascent of vehicle, (6) loading object for transport (including removal from water if surface support ship is used), (7) retrieval of vehicle by support ship or submarine. The recovery device may provide for direct lift by the vehicle or from the surface.

REMOTE AIRFIELD

Airfield nearest to the Remote Port that can accommodate aircraft transporting the Deep Submergence Rescue Vehicle System.

REMOTE ATTACHMENT DEVICE

Clamp that automatically attaches to a fitting on the top of the Personnel Transfer Capsule (PTC) to enable a crane to lift PTC from water to ship or converse.

REMOTE PORT

Port nearest to the location of a disabled submarine having the necessary facilities for loading a DSRV on a Submarine Rescue Ship or Mother Submarine.

REMOVABLE EQUIPMENT

External equipment removed from a deep submergence vehicle to facilitate handling and transportation.

RESCUE CHAMBER LANDING PLATE Informal Rescue Seat

The reinforced circular steel plate around the escape hatch of a submarine; during a DSRV rescue operation the vehicle's mating skirt rests on the RESCUE CHAMBER LANDING PLATE.

RESCUE CONTROL CENTER (RCC) Compartment in ASR-21 class ships that serves as a command and control center for rescue operations; includes facilities to monitor submersible operations.

RESCUE MISSION All operations related to the rescue of personnel in a disabled submarine.

RESCUE MISSION SEQUENCE A 5-phase sequence of operations for completing a rescue mission. The five rescue mission phases are (1) Alarm, (2) Response, (3) Localization, (4) Initial Rendezvous and Mating, (5) Rescue.

RESCUE PHASE Phase of deep submergence rescue operations beginning with the end of the first mating of the Deep Submergence Rescue Vehicle with the distressed submarine and ending when the rescue operation is completed. Also see RESCUE MISSION SEQUENCE.

RESCUE Short title for SUBMARINE LOCATION, ESCAPE, AND RESCUE PROGRAM that consists of (1) Rescue System, (2) Location System, (3) Submarine Escape and Survival System.

RESCUE HATCH A quick-acting-type access hatch located in the top of the Escape Trunk of a submarine. The hatch is used for assisted (SRC & DSRV) personnel rescue; also see ESCAPE HATCH.

Rescue Seat See ESCAPE TRUNK LANDING PLATE

RESCUE SYSTEM System to provide rapid-response rescue of personnel from a submarine disabled on the ocean floor above its collapse depth.

RESCUE UNIT Two Deep Submergence Rescue Vehicles (DSRV) and their personnel and support equipment and one surface support ship or two Mother Submarines.

RESCUE UNIT HOME PORT (RUHP) Base for RESCUE UNIT where vehicles are maintained and kept in alert status.

RESPONSE PHASE Phase of deep submergence rescue operation beginning when the Submarine Operating Authority (SUBOPAUTH) initiates a submarine disaster search and rescue program and ending when at least one Deep Submergence Rescue Vehicle and one DSRV support ship or Mother Submarine are in the area of the distressed submarine.

Right Angle Television Camera See CAMERA, TELEVISION, RIGHT ANGLE

Rotational Hand Controller See CONTROLLER, HAND, ROTATIONAL

RS'TF Rescue System Test Facility

RUHP RESCUE UNIT HOME PORT (defined)

RUHP AIRFIELD Airfield closest to a RESCUE UNIT HOME PORT that can accommodate aircraft transporting the Deep Submergence Rescue Vehicle System.

- SAL SUBMARINE ALERTING AND LOCATION
- System to alert search and rescue forces as to the location of a disabled submarine. System consists of releasable free-floating transmitter buoys, acoustic pinger, attached UHG transceiver, automatic signal alarms, and airborne DF equipment.
- SAMI SUPPORT ACTIVITY - MARE ISLAND
- SATURATION DIVING An underwater operation in which the diver remains at a specific depth until the decompression requirement is independent of time at depth.
- S&C SENSORS AND CONTROLS (defined)
- SCRUBBER See CO₂ SCRUBBER
- SCUBA
1. SELF-CONTAINED UNDERWATER BREATHING APPARATUS
- Diving rig in which the diver carries his breathing gas in cylinders on his back. Also see BREATHING APPARATUS.
2. SEMI-CLOSED CIRCUIT UNDERWATER BREATHING APPARATUS
- Diving rig in which the diver rebreaths a major portion of his breathing gas that has been passed through a carbon dioxide (CO₂) absorbant. A small amount of his exhaled gas is exhausted from the system to enable addition of new gas and to avoid building up contaminants. This arrangement provides greater diving time for a given amount of gas than do open-circuit rigs. May be self-contained or with breathing gas supplied to the diver through a hose.

SEARCH PHASE Phase of deep submergence vehicle operation including (1) deployment of area markers, (2) launch of vehicle, (3) descent to search area, (4) execution of search, (5) classification of sensor returns, (6) ascent of vehicle, (7) retrieval of vehicle by support ship or submarine.

SEARCH PROGRAM Short title for OBJECT LOCATION AND SMALL OBJECT RECOVERY PROGRAM.

SECONDARY MISSION Use of a deep submergence vehicle for activities other than its primary mission (other than RESCUE for the DSRV and SEARCH for the DSSV). Training is considered a secondary mission.

SECT SUBMARINE EMERGENCY COMMUNICATION TRANSMITTER
Untethered radio buoy carried by Fleet Ballistic Missile Submarines.

SEIS SUBMARINE ESCAPE/IMMERSION SYSTEM. Also, SUBMARINE EMERGENCY IDENTIFICATION SIGNAL

SENSORS AND CONTROLS (S&C) SUBSYSTEM
Subsystem composed of a deep submergence vehicle's communications, sonar, optical, navigation, special devices, control and display, and computing equipment.

SESC SYSTEMS ENGINEERING SUPPORT CONTRACTOR

SET SUBMARINE ESCAPE TRUNK (defined)

SHALLOW Generally considered underwater operations on the continental shelf.

SHIP CONTROL GROUP Section of the Integrated Control and Display (ICAD) equipment containing the Autopilot/Digital Data Analyzer (AP/DDA) and the Ship Control Electronics.

SHIPBOARD HANDLING EQUIPMENT
See HANDLING EQUIPMENT

SHOCK MITIGATION RING Shock absorbing ring around a deep submergence vehicle's mating skirt; minimizes impact and protects the skirt during mating operations.

SHORE POWER CONNECTOR Connector used to supply battery charging power to deep submergence vehicle while mated to Mother Submarine.

SHORT RANGE SONAR See DETECTING-RANGING SET, SONAR, SHORT RANGE

SHROUD, CONTROL Wing around deep submergence vehicle's propeller providing steering and diving control in the cruise mode; also provides some protection to the propeller from mechanical hazards.

SIMULATED DISTRESSED SUBMARINE
A steel structure, the top of which resembles the Rescue Hatch area of the hull of an SSN type submarine. This structure to be lowered to the sea floor for use during DSRV testing.

SLS Side Looking Sonar (See SONAR, SIDE LOOKING)

SLTG SEALAB TEST GROUP (defined)

SMASH SEMI-MOBILE ADVANCED SEA HABITAT

SOCC SALVAGE OPERATIONAL CONTROL CENTER (defined)

SONAR, SIDE LOOKING (SLS) AN/BQS

Informal Side Looking Sonar

Search sonar that provides continuous presentation of objects and topographic features of the ocean floor on both sides of a vehicle or sensor platform. The sonar's transmission and echo reception are in fan-shaped beams directed laterally and downward in a plane perpendicular to the fore-aft axis of the vehicle or platform.

SORTIE One trip by surface support ship or Mother Submarine to a specific operating area; one support ship can undertake several SORTIES during a single deployment; more than one mission can be accomplished during one SORTIE. Also see MISSION, DEPLOYMENT.

SOUNDING SET, SONAR, ALTITUDE/DEPTH (ADS) AN/BQN-10

Informal Altitude/Depth Sonar

Sonar that indicates a deep submergence vehicle's altitude above ocean floor and depth below the surface.

SPC CABLE STRENGTH-POWER-COMMUNICATIONS CABLE (defined)

Speech and Data Recorder

See RECORDER-REPRODUCER, SIGNAL DATA

SPS Designation for ship-mounted detecting and ranging radar. The ASR-21 will have an SPS-53A surface search radar.

SPU SWIMMER PROPULSION UNIT. Now SWIMMER DELIVERY VEHICLE.

SQQ Designation for ship-mounted sonar of a specialized type; see INTERROGATOR-RECEIVER SET, SONAR, THREE DIMENSIONAL. The ASR-21 will have AN/SQQ-25 Interrogator-Receiver Set, Sonar, Three Dimensional.

SQS Designation for ship-mounted search sonar equipment. The ASR-21 will have AN/SQS-4 detecting and ranging sonar.

SRC SUBMARINE RESCUE CHAMBER (defined)

Designation for ship-mounted radio communications set. The ASR-21 will have an SRC-27 UHF Transceiver.

SSE SUPPORT SUBSYSTEM EQUIPMENT

STABLE PLATFORM ASSEMBLY, INERTIAL NAVIGATOR

Informal Inertial Navigator Binnacle

Three-axis gimbal system employing gyros and accelerometers for inertial sensing. Part of the Inertial Navigator Group.

STEERING TASK GROUP (STG)

Senior representatives of Navy organizations and activities, engaged in deep submergence, that advises the Project Manager, Deep Submergence Systems Project.

Steinke Hood See SUBMARINE ESCAPE APPLIANCE

STEP SUBMERGED TEST AND EVALUATION PLATFORM (defined)

STG STEERING TASK GROUP (defined)

STRENGTH-POWER-COMMUNICATIONS CABLE (SPC CABLE)

Cable that carries lines for electrical power and communications and is the main lifting connection between the PTC and support ship during normal underwater operations. It can lift the PTC onto the deck of the surface support ship in an emergency.

STRUCTURE, INTERNAL SUPPORT

Informal Birdcage

Spherical framing structure installed within deep submergence vehicle pressure capsule to mount equipment and equipment racks.

STUB SKIRT

Transition piece on a deep submergence vehicle's pressure capsule to which the mating skirt is attached; this feature allows removal of the mating skirt for transport by aircraft.

Submarine Distress Pinger

See BEACON SET, SONAR (defined)

SUBMARINE ESCAPE AND SURVIVAL SYSTEM

Informal Escape System

System to provide for individual exit from a submarine, including (1) improved escape trunk or chamber in the submarine, (2) Built-in Breathing System (BIBS), (3) Escape and Survival Equipment.

SUBMARINE ESCAPE APPLIANCE

Informal Steinke Hood

Device to enable personnel to exit from a submarine; consists of life jacket and removable hood; compressed air is used as the breathing gas. Named for its inventor Harris Steinke.

SUBMARINE ESCAPE TRUNK (SET)

Access lock between a submarine's pressure hull and outer hull, the upper hatch of which is an escape hatch.

SUBMARINE OPERATING AUTHORITY (SUBOPAETH)

The commander responsible for the execution of SUBMISS/SUBSUNK search and rescue procedures.

SUBMARINE RESCUE CHAMBER (SRC)

Informal McCann Chamber

Tethered, submersible chamber carried by Submarine Rescue Ship (ASR) to rescue personnel from a disabled submarine. Carried by existing ASRs and to be carried by ASR-21 class ships.

SUBMARINE RESCUE CHAMBER STAPLES

Padeye-like devices on a submarine's rescue seat to which a Submarine Rescue Chamber (McCann Chamber) can attach turnbuckles as a safety precaution during certain mating operations; can also be used by a Deep Submergence Rescue Vehicle during certain mating operations.

SUBMARINE RESCUE SHIP (ASR)

Ship intended primarily for rescue of personnel from disabled sunken submarines; fitted with capability to support extensive diving operations.

1. Existing U.S. Navy ASRs carry the Submarine Rescue Chamber (McCann Chamber).
2. ASR-21 class ships now under construction have catamaran hull design and can transport, launch, recover, and support two Deep Submergence Rescue Vehicles; fitted with Deep Diving System MK 2 MOD 1; provision to carry DSRV Support Van.

SUBMERGED TEST AND EVALUATION PLATFORM (STEP)

SEALAB I habitat modified to support shallow water experiments in support of the Man-in-the-Sea Program.

SUBOPAATH

SUBMARINE OPERATING AUTHORITY (defined)

Support Ships

See OPERATIONAL SHIPS SYSTEM

SUPPORT SUBSYSTEM

Fly-away support equipment for the DSRV.

SUPPORT VAN

Mobile van containing test, maintenance, and replenishment equipment and spare parts for a deep submergence vehicle. The support van is deployed with the vehicle to a Remote Port and is placed on the surface support ship. When the vehicle is supported by a submarine, specific items of equipment are removed from the van and installed or carried in the submarine.

SURFACE SUPPORT DIVER

A diver based on the surface support ship for short-duration dives in support of a deep submergence system; he may return to the surface in a PTV or by direct ascent.

SYNTATIC FOAM

Floatation material consisting of hollow glass or plastic microspheres dispersed in a polyester or epoxy resin matrix.

-T-

TARGET, SONAR

Informal Hatch Marker

Passive acoustic reflector mounted on or near a submarine escape hatch to aid hatch location by the Deep Submergence Rescue Vehicle.

TD

TECHNICAL DATA DOCUMENT (defined)

TECHEVAL

TECHNICAL EVALUATION (defined)

TECHNICAL DATA DOCUMENT (TD)

Technical data prepared by the Technical Division, Deep Submergence Systems Project.

TECHNICAL EVALUATION (TECHEVAL)

Test and analysis to determine whether a system, support system, component, equipment, or material meets design specifications, is functioning in a technically acceptable manner in its operational environment, and is technically suitable for an OPEVAL.

TEST EVALUATION AND CORRECTIVE ACTION REPORT (TICAR)

Document that diagnoses test failures and reports on corrective action taken.

TEST & EVALUATION (T&E) RESCUE CONTROL CENTER (RCC) VAN

Complex installed in a mobile van to provide tracking facilities for rescue vehicle operation during test and evaluation; the van is installed on the surface support ship.

TEST & EVALUATION (T&E) SUBMARINE

Submarine modified to support test and evaluation of a deep submergence vehicle or system.

TEST & EVALUATION (T&E) SYSTEM

Surface support ships, submarines, facilities, and equipment assigned to test and evaluate deep submergence hardware and techniques.

TEST PROCEDURE (TP)

Document explaining the scope of a test and how it is performed; includes method of operation of major equipment and use of test equipment involved in the test.

TEST REQUIREMENT OUTLINE (TRO)

Document providing a brief description of test to be performed; includes purpose, duration, systems involved, special equipment required, methodology, and responsibilities.

TEST SPECIFICATION (TS)

Document providing detailed instructions to field support groups; lists requirements such as instrumentation, operating areas, support craft, transportation, communications, security, and safety.

THERMAL PROTECTIVE SUIT

Suit providing a diver with protection from the extremely cold water.

The Wiswell Diver and Diurene Suits are of the open-circuit hot water type, which flushes hot water through the inside of a polymerized wet suit.

Three-Dimensional Sonar

See INTERROGATOR-RECEIVER SET, SONAR, THREE DIMENSIONAL

THRUSTER, DUCTED

Informal Ducted Thruster

Propulsion unit in a cylindrical housing, which provides vertical or athwartships thrust.

TICAR	TEST INVESTIGATION AND CORRECTIVE ACTION REPORT (defined)
TM	TECHNICAL MEMORANDUM
TP	TEST PROCEDURE (defined)
TRACER, DEAD RECKONING	<u>Informal</u> Navigation Data Plotter (preferred) X-Y Plotter Automatic plotter in deep submergence vehicle that operates in conjunction with the Central Processor Computer to graphically display position information.
Tracking Transponder	See TRANSPONDER SET, SONAR, TRACKING
TRANSCEIVER (XCVR)	An electronic or electrical device functioning as both a transmitter and receiver.
TRANSDUCER (XDCR)	Device that converts electrical energy to sound energy or the converse.
TRANSDUCER, DEPTH PRESSURE	Electro-mechanical device that converts physical pressure to signal voltages.
TRANSFER BALLAST SYSTEM	See BALLAST SYSTEMS.
TRANSPONDER (XPDR)	Automated sonic receiver/transmitter for transmitting signals when triggered by an interrogating signal.

TRANSPONDER SET, SONAR, DOCKING (AN/BQN-12)

Informal Docking Transponder

Transponder mounted on the after end of the Mother Submarine's sail structure to aid underwater retrieval and mating of a deep submergence vehicle.

Transponder Interrogation Sonar

See INTERROGATOR SET, SONAR

TRANSPONDER SET, SONAR, TRACKING AN/BQN-7

Informal Tracking Transponder

Transponder in deep submergence vehicle that generates signal to enable surface support ship or submarine to track the vehicle.

TRANSPONDER SET, SONAR, HOMING AN/BQN-8

Informal Homing Transponder

Small, expendable transponder carried by deep submergence vehicle or unmanned system for planting on the ocean floor to mark an object or aid in navigation.

TRAPEZE

Arresting bar and attached supporting bars fitted to Mother Submarine to assist deep submergence vehicle alignment for mating and coming to rest directly on pylons installed on the submarine's deck. The TRAPEZE engages a hook on the vehicle.

TRIP

Activities of one deep submergence vehicle or system during one trip from the support ship or submarine.

TRO TEST REQUIREMENT OUTLINE (defined)

TS TEST SPECIFICATION (defined)

TRUNNION FLANGE Pressure capsule pivot/support flange located at the extremes of the common axis of the DSRV spheres. Holds the spheres to the outer null.

UMBILICAL Connection between diver and support ship, habitat, or PTC that can carry breathing gas mixture, communications, life function monitoring, and hot water.

UIP UNMANNED INSTRUMENT PLATFORM (defined)

Underwater Telephone See BQC

UNDERWATER UPSIDE DOWN DAVIT (UDD)

Davit and winch mechanism mounted on SEALAB habitat to operate cargo canister system from surface support ship.

UNMANNED INSTRUMENT PLATFORM (UIP)

Unmanned platform, generally tethered and towed by surface ship, carrying sensors for underwater search.

UNMANNED RECOVERY VEHICLE (URV)

Unmanned device, generally tethered and controlled by surface ship, for recovering objects on the ocean floor.

Also see CASE-CONTROLLED UNDERWATER RESEARCH VEHICLE

UQC Designation for general utility underwater communications equipment.

1. The Test Range Support Ship ELK RIVER (IX-501) has AN/UQC-1 underwater telephone.

UQC (Cont)

2. Submarine Rescue Ships have AN/UQC-1
3. Combatant Submarines have AN/UQC-1.

Also see BQC.

UQN

Designation for general utility, ship-mounted underwater sounding device. The ASR-21 will have a UQN-4 echo sounding system.

URD

Designation for general utility, ship-mounted radio direction finder. The ASR-21 will have a URD-4 radio direction finder.

URV

UNMANNED RECOVERY VEHICLE (defined)

UDD

UNDERWATER UPSIDE DOWN DAVIT (defined)

VAN See INTEGRATED MEDICAL AND COMMAND (IMC) VANS

 See SUPPORT VAN

 See TEST & EVALUATION RESCUE CONTROL CENTER (RCC) VAN

VARIABLE BALLAST See BALLAST SYSTEMS

Vertical Gyro See GYROSCOPE, VERTICAL

Vertical Obstacle Sonar See DETECTING-RANGING SET, SONAR, VERTICAL OBSTACLE

VIEWPORT OPTICS See OPTICS EQUIPMENT

VOS Vertical Obstacle Sonar

 See DETECTING-RANGING SET, SONAR, VERTICAL OBSTACLE

Water Level Detector See DETECTOR, WATER LEVEL

WBS WORK BREAKDOWN STRUCTURE (defined)

Winch See DOWNHAUL WINCH

WISWELL SUIT See DIVER'S SUIT, HEATED

WORK BREAKDOWN STRUCTURE

 "Family tree" division of hardware and software services and other work tasks that organizes, defines, and graphically displays the product to be produced as well as the work to be accomplished in achieving the specified product.

WQC Designation for surface ship or submersible acoustic communications device.

Formal COMMUNICATION SET, SONAR

Informal Underwater Telephone

 ASR-21 Class will have AN/WQC-2 Underwater Telephone.

-X-

XCVR	TRANSCIVER (defined)
XDCR	TRANSDUCER (defined)
XMTR	TRANSMITTER
XPDR	TRANSPONDER (defined)
X-Y Plotter	See TRACER, DEAD RECKONING

X-1