



### STEAM PROPULSION PLANT SIMULATOR (1200 PSI), DEVICE 19E22

**TRAINING CATEGORY:**

PROPULSION ENGINEERING (Damage Equipment Maintenance)

**ORIGINATING AGENCY:**

CNET

**SECURITY CLASSIFICATION:**

Device 19E22 is unclassified.

**INTENDED USE:**

In indoctrination and training in EOSS operational and EOCC casualty control procedures, systems tracing, watch standing, automatic boiler control operation, and inspection, for tasks assigned to all engineering space watch stations.

**PURPOSE OF DEVICE:**

To provide a shore based training device capable of exercising operational and casualty control procedures for the engineering spaces of a US Navy frigate FF-1078 class ship.

**FUNCTIONAL DESCRIPTION:**

Device 19E22 consists of a full scale simulation of the engineering spaces of a US Navy frigate FF-1078 class ship. The ship areas simulated by the device consist of full scale operational simulations of the auxiliary machine room No. 1, fire room, engine room, auxiliary machine room No. 2 and pump room, electrical control, and the forced draft blower room. The trainer includes an instructor console, computer, and peripheral equipment located in a computer room which serves as the instructor base station.

A wireless communications system accommodates several roaming instructor-observers. Device 19E22 can be operated in any of five (5) modes. The integrated mode is simultaneous interactive operation of all engineering spaces as in the design basis ship. The independent mode allows separate operation of the three (3) engineering groups; the fire room, the engine room, and the auxiliary equipment rooms. Conditions in one (1) group will not affect the others. The accelerated mode allows operation of the device

## DIRECTORY OF NAVAL TRAINING DEVICES

eight (8) times faster than real time. No training is performed during this mode. The record and playback modes permit the recording and playback of the past 30-minute segment of a training exercise. At the console, training can be initialized to any of four (4) initial conditions; cold iron, auxiliary steaming, underway at 15 knots, and underway at 25 knots. A list of available casualties can be selected and implemented by the computer program. Improper trainee actions which introduce malops or casualties are automatically keyed to the instructors. The system contains four (4) television monitors and a video tape recorder with nine (9) strategically placed cameras. During a training exercise, student control and operation of trainer hardware results in trainer displays and reactions that simulate actual propulsion plant performance. Actual ship's communications equipments are also included.

For general maintenance purposes, daily readiness, system test and calibrate, and diagnostic programs are provided.

The instructor, assisted by the computer, has a complete monitoring capability which permits him to readily and easily follow the sequence of trainee actions. The trainer also affords close instructor trainee supervision with an exercise-freeze capability.

#### POWER REQUIREMENTS:

115/208 VAC, 60 Hz, 850 amps, 3-phase, 4-wire

#### EQUIPMENT REQUIRED (NOT SUPPLIED):

Support test equipment as required.

#### PHYSICAL INFORMATION:

UNIT	DIMENSIONS (INCHES)	WEIGHT (LB)
Cmptr Rack Assy	23.25" W x 31" D x 70" H	650
Cmptr peripheral Rack Assy	23.25" W x 31" D x 70" H	800
Aux 2 Electronics Assy	67.5" W x 26.5" D x 79" H	1300
Aux 1 Electronics Assy	111.5" W x 26.5" D x 79" H	2600
FR Electronics Assy	89.5" W x 26.5" D x 79" H	2150
FR Electronics Assy	23.5" W x 26.5" D x 79" H	630
FR Electronics Assy	45.5" W x 26.5" D x 79" H	1215
ER Electronics Assy	111.5" W x 26.5" D x 79" H	2600
Line Printer	48" W x 36" D x 50" H	600
Card Reader	36" W x 24" D x 36" H	130
Cmptr Mag Tape Assy	23.25" W x 31" D x 70" H	600
TTY	41" W x 39" x 40" H	200
Instructor Console	76" W x 186" D x 50.56" H	1200
Trainee Area	600" W x 1620" D x 492" H	80,000
Cmptr Documentation Cabinet	48" W x 14" D x 40" H	50

#### PUBLICATIONS FURNISHED:

1. Instructor Handbook for 1200 PSI Propulsion Plant Trainer, Device 19E22
2. Maintenance Handbook for 1200 PSI Propulsion Plant Trainer, Device 19E22 (including commercial documentation).
3. Commercial Computer System Maintenance Data
4. Planned Maintenance System Documentation for 1200 PSI Propulsion Plant Trainer, Device 19E22
5. Engineering Maintenance Drawing Package for 1200 PSI Propulsion Plant Trainer, Device 19E22

#### PERSONNEL (Per 8-hour Shift):

**Officer-in-Charge:** LT

**Instructors:** Eighteen (18) (1-EOWW-LT, 1 instructor/operator - MCC, 1 instructor/operator - BTC, 1 instructor/operator - EMC, 5 instructors - MMI, 5 instructors - BTI, 1 instructor - EMI, 1 instructor/administrator - MMC, 1 instructor/administrator - BTC, 1 instructor/operator - EMC)

**Trainees:** Up to Twenty (20) to man each watch station

**Trainee Observers:** Instructors as required

**Maintenance:** Thirteen (13) (3 Janitorial - FN; Eight (8) maintenance: TDC, TD1, TD2, TDAN, 1 NETSCLANT representative; 1 contractor Field Service Representative)

#### CONTRACT IDENTIFICATION:

Manufactured by Gould Inc., Simulation Systems Div., Melville, NY under NAVTRASYS-SCEN Contract No. N61339-75-C-0115.

#### LOCAL STOCK NUMBER:

6910-LL-C00-4214