

The MMST System Information Bulletin

March 1998

INDIANAPOLIS MMST DEVELOPS TRAINING PLAN

The Indianapolis Metropolitan Area (IMA) Metropolitan Medical Strike Team (MMST) recently developed and submitted their Training Requirements to Public Health. Indianapolis focused on the MMST System, including integral components in the training. A synopsis is offered as an example.

The Indianapolis MMST plans to train 350 persons in Awareness, 250 in Operations, 45 in Hazardous Materials, 125 in Field Emergency Medicine, 85 in Command, and 80 in Hospital Operations. Participants will represent Police, Fire, Emergency Medical Services (EMS), Bureau of Alcohol, Tobacco, and Firearms (BATF), Federal Bureau of Investigation (FBI), State Emergency Management, National Guard, Marion County Coroner, representatives from utility agencies, and representatives from each of the primary assembly locations (i.e., RCA Dome, Market Square Arena, and Indianapolis Motor Speedway).

All Emergency Medicine Resident Physicians from two local hospitals will attend training along with at least four faculty physicians. This representation will total almost 75 physicians. Discussions are proceeding concerning the incorporation of nuclear/biological/chemical (NBC) agent identification, decontamination, antidote administration, short- and long-term treatment plans, and overall hospital operations during a mobilization of the MMST.

The Indiana Poison Control Center will play a key role as the clearinghouse for information related to agent identification and treatment recommendations utilizing existing communication resources.

The Indianapolis Marion County Forensic Services Agency has been contacted concerning evidence handling and processing for criminal investigative purposes.

DoD PLANS TO INTEGRATE NATIONAL GUARD INTO WMD RESPONSE

A recent Department of Defense (DoD) analysis determined insufficient preparedness to perform critical tasks requested by other Federal agencies within consequence management. A significant void in the response community chemical, biological, and radiological assessment capability also exists. As a result, DoD found it necessary to create a DoD response capability that does not exist today. Rapid Assessment and Initial Detection (RAID) elements will assist with agent identification and appropriate hazard mitigation in the affected areas of a weapon of mass destruction (WMD) release. Operationally, these elements will be responsible for identifying areas to evacuate. The elements are intended to respond under the State control and, if necessary, be available for military contingencies. The recommendation was made to field RAID teams in every State.

For additional information, please see the following web page address:
<http://www.defenselink.mil/pubs/wmdresponse/>

WEB SITES OF INTEREST

Computer Aided Management of Emergency Operations (CAMEO)

<http://www.nsc.org/ehc/cameo.htm>

National Emergency Management Association

<http://www.nemaweb.org/>

National Coordinating Council on Emergency Management

<http://nccem.org>

Federal Emergency Management Agency (FEMA)

www.fema.gov

National Fire Protection Association (NFPA)

<http://nfpa.org>

Center for MSDS Partnership

<http://www.fpn.navy.mil>

Hazardous Chemical Database

Ull.chemistry.uakron.edu/erd

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EQUIPMENT INFORMATION

The Research Planning, Inc. (RPI) Team continues to expand and strengthen our association with vendors. Several companies offering equipment of potential use to MMST System response have recently contacted us. In our effort to continue "Sharing the Knowledge," it is our pleasure to pass this new information on. Enclosed, you will find copies of the data we have received on several new products. As we have previously indicated, we are distributing this information to assist you in your equipment identification process; however, no recommendations or endorsements are implied.

NBC Agent Detection and Identification

Environmental Technologies Group, Inc. (ETG) is developing a new piece of equipment, which they have named the "Hazard Communicator." The new device uses the same detection technology as the CAM and I-CAM, which is subject to Nuclear Regulatory Commission (NRC) regulation. ETG is pro-actively working to resolve the NRC license issue while maintaining compliance with Federal and State regulations. Information regarding this issue will be forwarded as it becomes available. Our point of contact at ETG is Mr. Scott Goetz.

RAE Electronics, Inc. has developed two improved atmosphere monitors: one is a broad-base monitor and the other is industrial chemical specific. We have been informed that RAE is tentatively planning to coordinate with the Chemical and Biological Defense Command (CBDCOM) to test Photo Ionization Detection (PID) technology in detecting live chemical warfare (CW) agents. The data from this testing will be forwarded as it becomes available.

NBC Agent Decontamination

MODEC, Inc. announces two new decon systems of potential interest. In the design stage is an "economy" model of their Mass Casualty Decontamination System. The other system is a small, portable unit designed to be employed with a portable shelter system. A working prototype was successfully demonstrated on March 6, 1998, at the Department of Health and Human Services/ Office of Emergency Preparedness (DHHS/OEP) in

Rockville, MD. For additional information contact Mr. Brian Kalamanka at MODEC.

Communications

We have received information from Dialogic Communications Corporation (DCC) detailing an automated emergency notification system.

This system may be useful as a means of initiating MMST activation or recall procedures. Our point of contact at DCC is Mr. Mike Owens.

GENERAL INFORMATION

The RPI MMST Support Team will be attending the 1998 National Disaster Medical System (NDMS) Conference on Lifesaving Intervention, March 28 to April 1 in Denver, CO. This conference is an excellent opportunity to continue "Sharing the Knowledge." We look forward to seeing you there.

DIALOGIC COMMUNICATIONS

A Sampling of DCC's Notification Clientele

THE NUCLEAR INDUSTRY:

U.S. Nuclear Regulatory Commission
Pacific Gas & Electric (Diablo Canyon)
U.S. Department of Energy
Carolina Power & Light (Robinson Nuclear)
Duquesne Light Company
Wolf Creek Nuclear Operations Corporation
Virginia Power (North Anna Power Station)
Sandia National Laboratories
South Texas Nuclear Project

OIL/CHEMICAL/PETROCHEMICAL:

Dow Chemical North America
Amoco Corporation
Shell Oil Company
Bayer Corporation
Mobil Oil Corporation
Exxon Company, U.S.A.
Merck & Company, Inc.

U.S. MILITARY:

U.S. Department of Defense - The Pentagon
U.S. Army XVIII Airborne Corps - Fort Bragg
Seymour-Johnson Air Force Base
U.S. Army Corp of Engineers
Moody Air Force Base
Tyndall Air Force Base
Malmstrom Air Force Base
Eglin Air Force Base

FIRE/9-1-1/EMA's:

State of California
State of Utah
New Jersey Bell/9-1-1 Control Center
City of Amarillo Emergency Management
City of Los Angeles Emergency Operations
Pennsylvania Emergency Management
City of Pittsburgh 9-1-1
Bay County EOC (FL)
Iberville Parish (LA)
State of Indiana

TRANSPORTATION:

Federal Aviation Administration
Philadelphia International Airport
Delta Air Lines
Dallas/Ft. Worth International Airport
Birmingham Airport Authority
Logan International Airport
Minneapolis International Airport
Continental Air Lines
Tucson Airport Authority

DATA PROCESSING/DATA SECURITY:

U.S. Trust Company of New York
ADP (Automatic Data Processing)
Chase Manhattan
Fidelity Investments
EDS (Electronic Data Systems)
Intel Corporation
Depository Trust

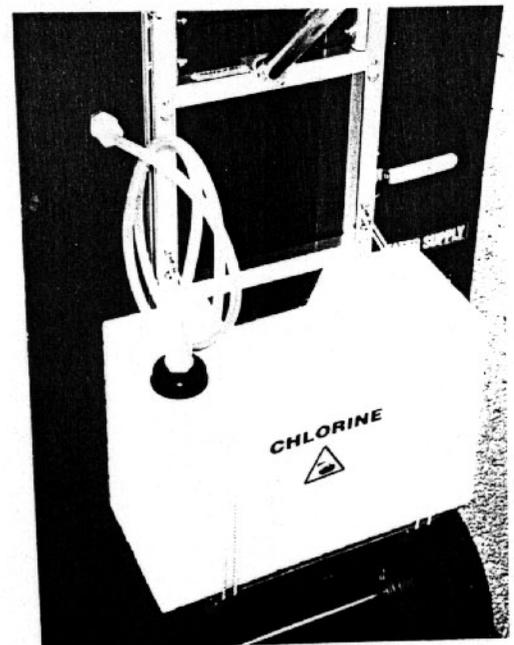
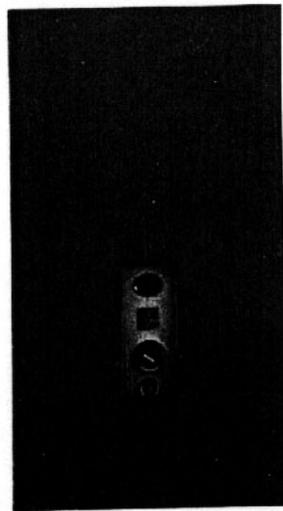
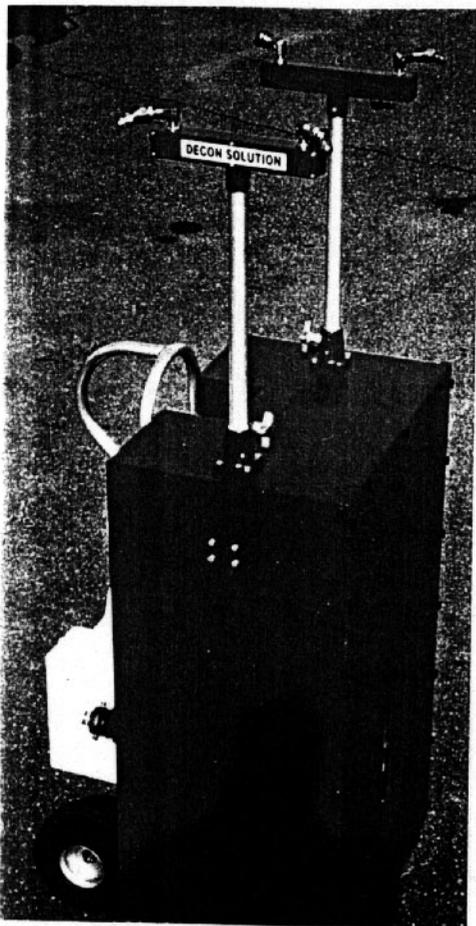
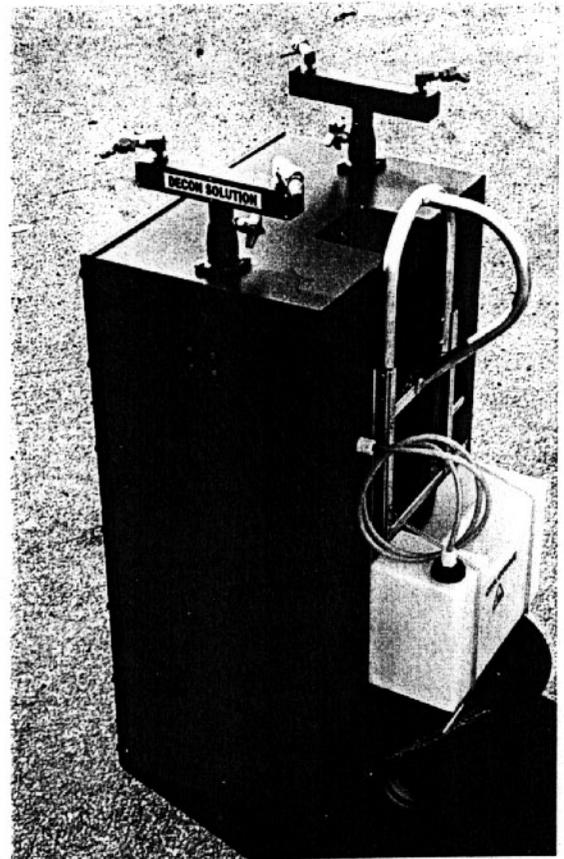
HEALTHCARE:

Scripps Hospital (CA)
New York Medical Center of Queens
Kaiser Foundation Hospitals
Paoli Memorial Hospital (PA)
Baptist Hospital (TN)

INTERNATIONAL:

Ontario Emergency Measures (Canada)
BCTEL (Canada)
Watts Communications (Canada)
Danmon A/S (The Netherlands)
Chippewas/Sarnia First Nations (Canada)
Regina Canada EMS
Township of Bruce (Canada)
Ontario Hydro (Canada)
Ministry of Housing (The Netherlands)
City of Nepean (Canada)

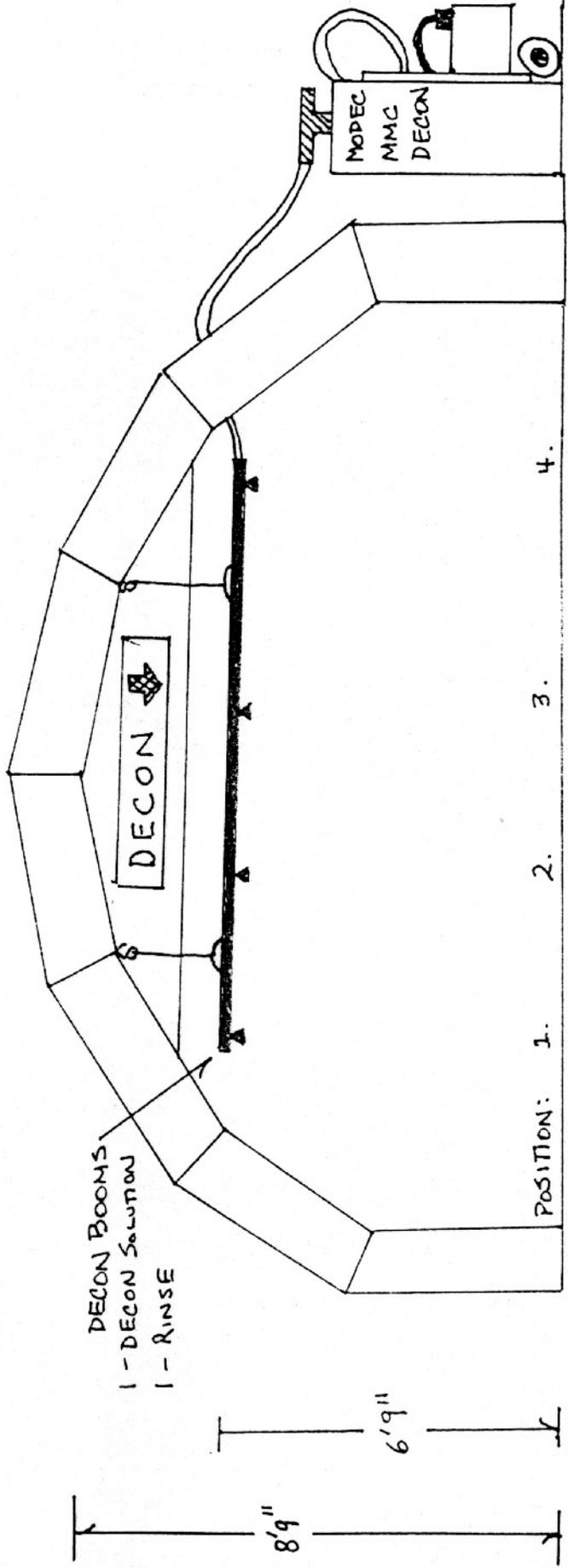
**TO LEARN MORE ABOUT DCC'S EMERGENCY NOTIFICATION SOLUTIONS,
CALL 800.723.3207 OR 615.790.2882
OR VISIT OUR WEBSITE AT WWW.DCCUSA.COM TODAY!**



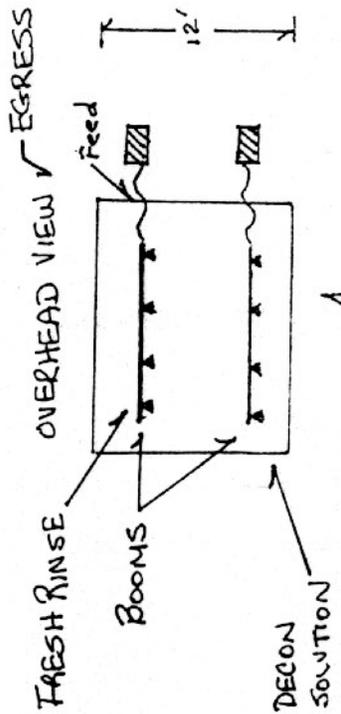
Modec's *Modular Mass Casualty Decon System*. Compact and portable, it weighs less than 100 lbs. and can be equipped with several devices such as booms, wands and spray heads. Completely self contained and powered, it incorporates our unique heated auto-injection system for hands delivery of precisely measured chemical agent decon solution instantly and continuously. It can be rapidly deployed by one person.

MODEC, INC.
 MODULAR MASS CASUALTY
 DECONTAMINATION SYSTEM
 RAPID DEPLOYMENT LAYOUT

- EASILY TRANSPORTED
- SETS UP WITH 2 PEOPLE IN LESS THAN 5 MINUTES.
- PROCESSES 8 PEOPLE SIMULTANEOUSLY
- PROVIDES SOLUTION AND RINSE CONTINUOUSLY AND INSTANTANEOUSLY FOR HOURS

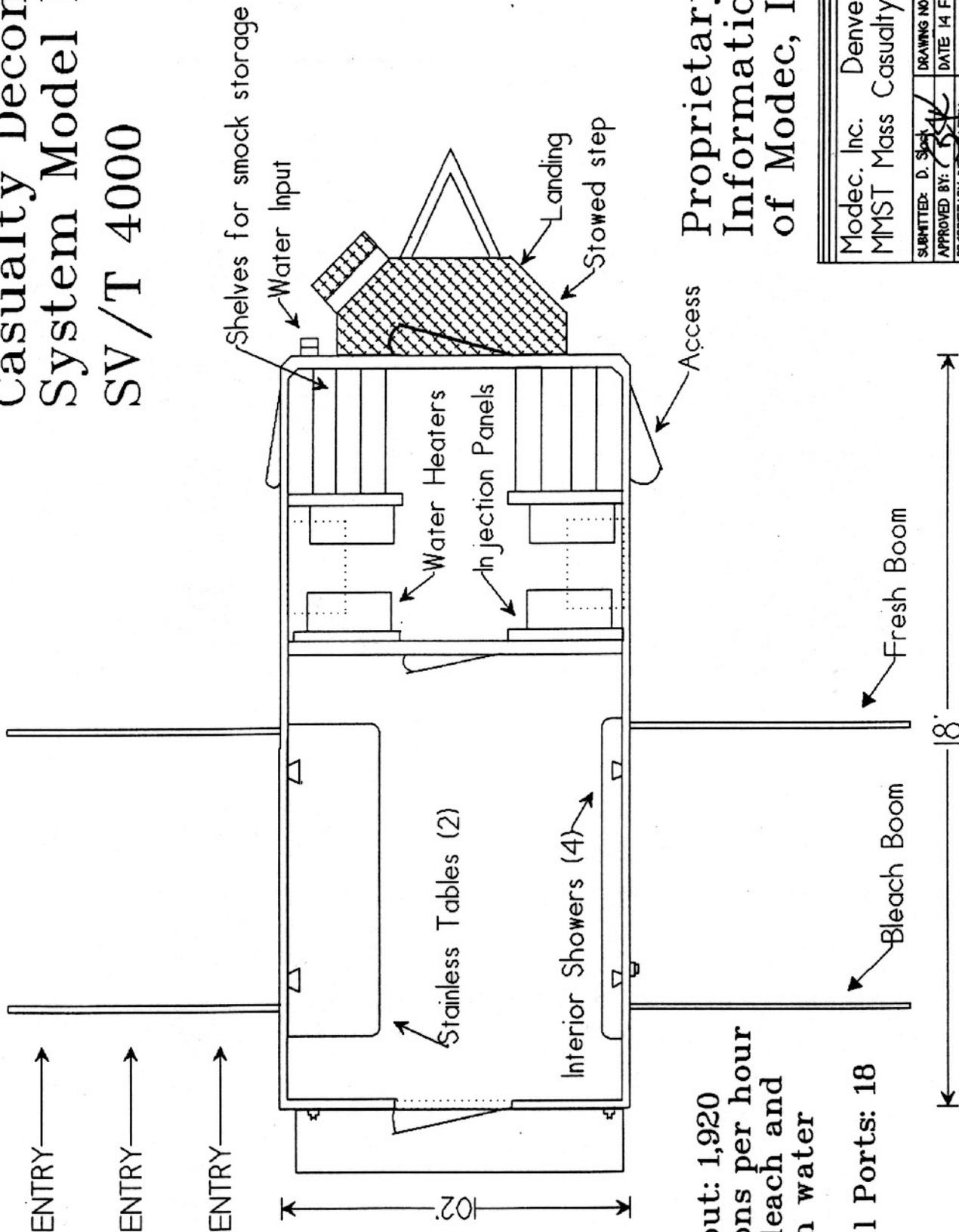


12'



"Economy Model"

MMST Mass Casualty Decon System Model No. SV/T 4000



Output: 1,920 gallons per hour of bleach and fresh water

Total Ports: 18

Proprietary Information of Modtec, Inc.

Modtec, Inc. Denver, Colo.
MMST Mass Casualty Decon

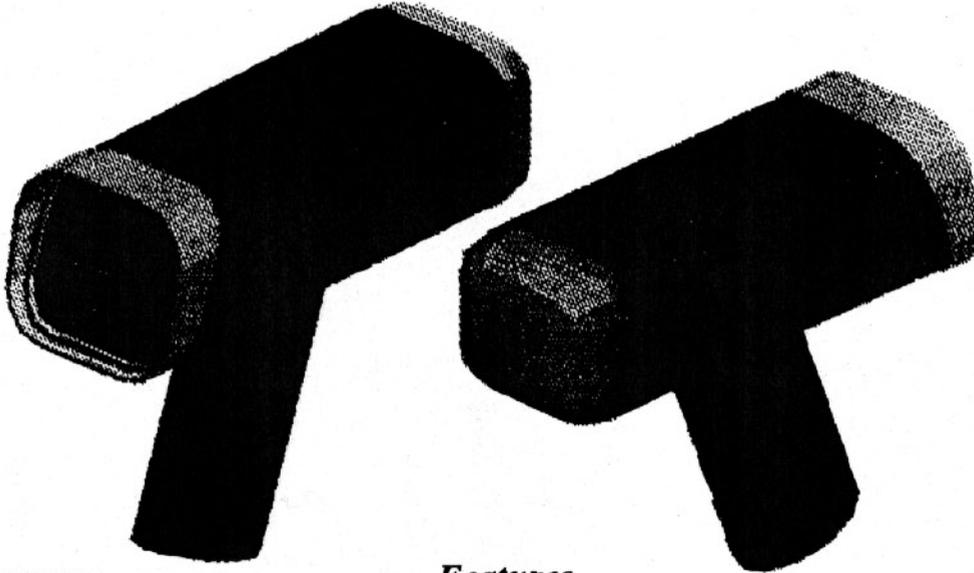
SUBMITTED BY: D. Sisk
APPROVED BY: [Signature]
DRAWING NO: MMST2-2
DATE: 14 Feb 98
PROPRIETARY INFORMATION



**Environmental
Technologies
Group, Inc.**

Chem/Bio Marketing Manager
1400 Taylor Avenue, P.O. Box 9840
Baltimore, MD 21284-9840
(410) 321-5200 Fax (410) 321-5255

Hazard Communicator (HazComm)



Performance

The ETG Hazard Communicator (HazComm) is a hand-held detector and monitor designed for battlefield applications and/or civilian emergency first response situations. The HazComm is the first instrument that provides detection of chemical warfare agents and civilian threats such as pepper spray and mace. Operator selectable modes allow the instrument to be used as a detector with automatic clear-down and reset following alarm, or as a continuously sampling monitor. A state-of-the-art detection algorithm provides simultaneous nerve and blister agent detection, pepper spray and mace detection, compound identification, and superior interferent rejection. The HazComm may be powered from internal alkaline or rechargeable batteries, external AC sources, or 8 - 36 Vdc.

HazComm options include an integrated radiation dosimeter, data logging of all detection and monitoring events, sample preservation capabilities, and remote communication of alarm signals via radio frequency.

Features

- ▶ Detection of chemical warfare agents and civilian threats such as pepper spray and mace
- ▶ Agent identification
- ▶ Superior resistance to interferents
- ▶ Utilizes commercial alkaline or rechargeable batteries, AC, vehicle power
- ▶ User selectable monitor or detector operating modes
- ▶ Optional radiation dosimeter, data logging, sample preservation, remote communication

Specifications

Agents Detected: GA, GB, GD, VX, HD, HN & Lewisite (L) Pepper Spray, Mace

Sensitivity: V - 0.04 mg/m³ < 30 seconds
G - 0.1 mg/m³ < 30 seconds
H - 2.0 mg/m³ < 15 seconds
L - 2.0 mg/m³ < 15 seconds

High concentrations of these agents < 10 seconds

Self test: BIT for electronic, pneumatic and power conditions

Operator Service: <5 minutes per 24 hours of operation

Temperature: Operation: -30°C to +52°C
Storage: -62°C to +71°C

Size: 4" x 3½" x 11" (10 x 9 x 28 cm)

Weight: <7 pounds (<3.2 kg) including batteries

Power: Uses standard C or rechargeable batteries, AC, or 8 to 36 Vdc

Alarms: Easy to read visual display and audio alarm

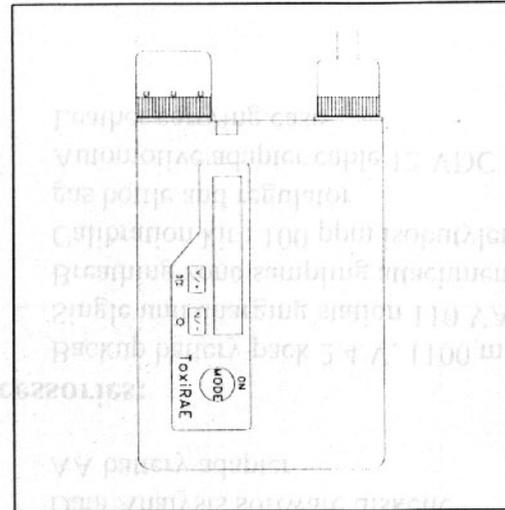
Model PGM-39 Personal Chemical Monitor

Features

- Compact (wallet size), light weight (16 oz.) and rugged design
- Long operating time, 10 hours of continuous monitoring on a single charge
- Patented PID sensor for monitoring volatile Organic Compound (VOC) in low ppm range
- Built-in sample draw pump to collect gas sample into standard charcoal or Tenex tube
- Programmable action thresholds to activate the sample collection operation
- Programmable alarm limits TWA, STEL and peak values. Buzzer and flashing LED display will be activated when the limits are exceeded
- Microcomputer updates instantaneous values for direct read back
- Built-in datalogging capability to store 4000 data points, 66 hours at 1 minute interval

Applications

The ToxiRAE Personal Chemical Monitor (model PGM-39) is the first compact Personal Chemical monitor designed to provide continuous chemical vapor exposure monitoring for work in hazardous environment. It is ergonomically designed to be comfortably worn on the belt or in breathing zone for hands-free operation. It is particularly suitable for applications in hazardous waste site survey, confined space entry, exposure monitoring in chemical factory, refinery and gas storage facility, etc.



Description

The ToxiRAE Personal Chemical Monitor (model PGM-39) consists of a PID sensor, sampling pump and associated microcomputer and electronic circuit. The unit is housed in a rugged ABS + PC case with a back-lit 8 character LCD and 3 keys to provide easy operator interface.

The miniature PID sensor measures the total VOC concentration. The diaphragm pump collects gas sample into a standard 6, 8 or 10 mm charcoal or Tenex tube based on threshold level defined by the user. The flow rate and sample collection duration are also user programmable.

The real time VOC readings can be datalogged and then downloaded to a Personal Computer for record keeping or data analysis. Compact rechargeable battery pack can be replaced in the field without losing stored data.



Advanced Technology For A Safer Environment

680 West Maude Avenue, Sunnyvale, CA 94086
TEL : 408-481-4999 FAX: 408-481-4998

Specification:

Size: 6.0"L x 3.75"W x 1.0"H

Weight: 12 oz with battery

Detector: Electrodeless ultraviolet discharge lamp with Teflon / stainless steel chamber

Battery: Rechargeable, 2.4V, 1100 mAh, Ni-Cd battery pack. Field replaceable with 2 AA batteries

Operating Hours: 12 hours continuous

Attachment: Pocket/belt clip

Display: 8 digit LCD with LED back light

Key-pads: 1 operation key and 2 programming keys

VOC Range:

0 to 99.9 ppm, 0.1 ppm resolution

100 to 1000 ppm, 1 ppm resolution

Repeatability: $\pm 2\%$ of reading or ± 2 ppm when calibrated to 100 ppm isobutylene

Response Time: $t_{90} < 30$ seconds

Datalogging: 4000 points (64 hours at one minute interval, down load to PC) with date and time stamp

Sample Collection Period : 1- 3600 sec

Communication: down load data to PC and up load unit setup from PC through serial port on PC

Direct readout: instantaneous value, peak value, STEL and TWA for VOC, battery voltage and elapsed time

Intrinsic Safety: Class 1, Division I, Group A,B,C,D

EM Interference: no effect when exposed to 1.7 mW/cm² RF interference (5 watt transmitter at 12 inch)

Alarm Setting: Separate alarm limit for TWA, STEL, and Peak

Alarm: 90 dB buzzer and flashing red LED to indicate exceeded preset limits, low battery

Calibration: Two points field calibration for zero and standard VOC reference gas

Gas inlet: Accept standard 6, 8 or 10 mm charcoal or Tenex tube

Pump Flow Rate: Programmable from 100 to 500 cc per minute

Action level: Programmable average or peak value from 0.1 to 1000 ppm

Temperature: -10^o to 50^oC (14^o to 122^o F)

Humidity: 0 % to 100% relative humidity (non-condensing)

ToxiRAE Ordering Information

Basic Kit PGM-39K:

- Personal Chemical monitor unit
- Single unit charging station 110 VAC
- Calibration adapter with Tygon tubing
- Operation and maintenance manual
- Data Analysis software diskette
- AA battery adapter

Accessories:

- Backup battery pack 2.4 V, 1100 mAh
- Single unit charging station 110 VAC
- Breathing zone sampling attachment
- Calibration kit : 100 ppm isobutylene gas bottle and regulator
- Automotive adapter cable 12 VDC
- Leather carrying case



Advanced Technology For A Safer Environment

UltraRAE *Specific Benzene Monitor*

The **UltraRAE** monitor, displays and datalogs specific toxic vapors in the work place and potentially hazardous environments. UltraRAE combines both a patented photo-ionization detector (PID) and a vapor specific separation tube (RAE-SEP™ tube). The first of a series of field replaceable, bar coded RAE-SEP™ tubes analyzes specifically benzene. An improved PID design, with new 9.8 eV lamp detects benzene down to sub ppm levels.

The internal sampling pump provides quick response and allows for easy remote sample analysis in a column or vessel and pre-testing for confined space entry. UltraRAE is ergonomically designed to be comfortably held by hand. It is particularly suitable for applications of benzene exposure monitoring in refineries, petrochemical plants, petroleum, diesel and jet fuel transportation and bulk handling companies, road, train, ship and airline industry and manufacturing plants using benzene solvent.

Compact, light weight

Durable weatherproof case

Easy access to both PID lamp and sensor

Photocell for automatic back light display

Flashing LED alarm

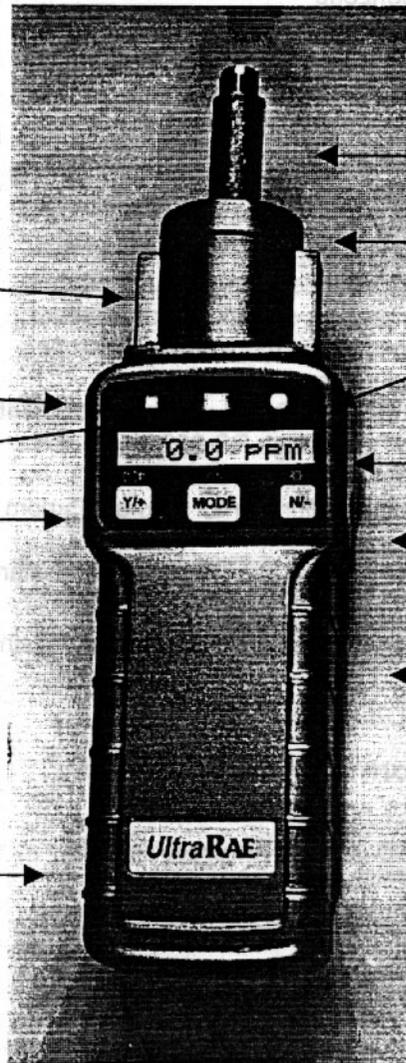
Audio alarm

Optional vibration alarm

Protection from RFI

3000 data points download to PC

Use with either rechargeable or alkaline snap in battery pack
10 hours operation



Field replaceable, bar coded RAE-SEP™ tubes for monitoring benzene

Simple tube break-off and disposal system

Recharging LED indicator

Large, alarm activated, back light LCD display

Large keys usable with gloved hand

Internal sample draw pump for quick response and remote sampling



680 West Maude Suite 1, Sunnyvale CA 94086 USA

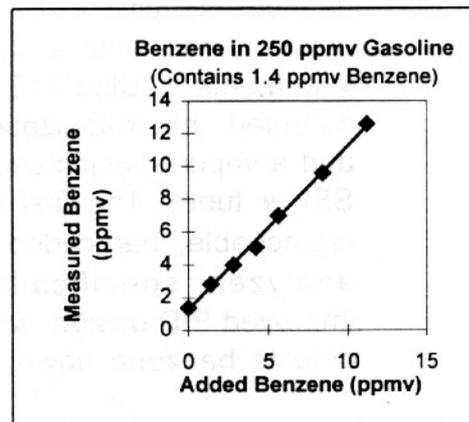
Tel: 408-481-4999 | Fax: 408-481-4998 Email: raesysm@ix.netcom.com

<http://www.raesystems.com> REV:CH007 5/1/97

UltraRAE *Specific Benzene Monitor*

Specifications:

Size:	7.75"(19.7 cm) L x 2.75"(7 cm) W x 1.5"(3.8 cm) H
Weight:	16 oz (455 gm) with battery pack
Detector	Photo-ionization sensor with 9.8 eV UV lamp
Battery:	Rechargeable, snap-in, field replaceable, nickel metal hydride battery pack
Battery charging:	10 hours charge through built-in charger
Operating Hours:	10 hours
Display:	Large LCD, manual and alarm activated back light
Specific Compound Range & Resolution:	0-200 ppm 0.1 ppm Benzene (measurement gas)
Response time:	60 sec
Accuracy:	± 10% of reading or ± 0.1 ppm when calibrated to 5 ppm benzene
RAE-SEP™ tube:	Field replaceable, bar coded, sealed at both ends for storage
Keypads:	1 operation key and 2 program keys
Alarm Setting:	Two adjustable alarm limit levels (Factory default 0.5 and 1 ppm)
Audible Alarm:	90 dB buzzer
Visual Alarm:	Flashing red LED
External Alarm :	Optional plug in pen size vibration alarm
Datalogging:	3000 points; includes sample number, gas reading, time/date, specific vapor. Header information includes monitor serial number, user ID and site number.
Communication:	Download data to PC and up load instrument setup from PC through RS-232 link to serial port on PC
Calibration:	Two point field calibration of zero and 5 ppm benzene
Sampling Pump:	Internal. Flow rate 400 cc /min. Low flow alarm
Temperature:	0° to 40°C (32° to 113°F)
Humidity:	0% to 95% relative humidity (non-condensing)



No Interference by:

200 ppm Toluene
200 ppm o-Xylene
100 ppm Styrene
300 ppm n-Hexane
30 ppm Cyclohexane
200 ppm n-Octane
100 ppm Acetone
100 ppm Isopropanol

UltraRAE Ordering Information

BASIC KIT PGM-60DK:

- UltraRAE unit with 9.8 eV PID detector, rechargeable battery pack, 2 x (5 pack) RAE-SEP™ benzene tubes
- Computer interface cable and data analysis software diskette
- AC/DC charging adapter
- Backup Alkaline battery adapter
- Operation and maintenance manual

ACCESSORIES:

- RAE-SEP™ benzene tubes 2 x (5 pack)
- Calibration kit: 5 ppm benzene, 34 liter cylinder, regulator with Teflon® tubing and Tedlar® bag
- Remote access probe
- Vibration alarm

State & Local Government

Officials at all levels of government are faced with the challenge of providing more community-based services while containing stricter budgets. Emergency preparedness is no exception. That is why so many government officials rely on automated call-out systems to notify response teams and alert area residents when emergency conditions exist. Fast and efficient, these systems enable you to do more with less...

do more with less...

Less money, fewer people and more work make it tougher to effectively respond in emergency situations. The COMMUNICATOR!®, manufactured by Dialogic Communications Corporation, is America's most used automated emergency notification system. Installed in over 300 mission-critical operations, The Communicator serves as a true "force multiplier" when manpower is limited and time is critical.

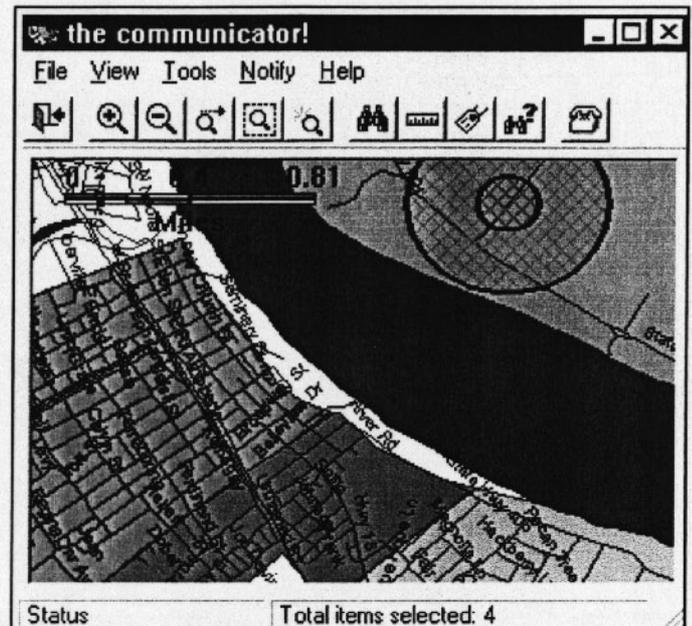
Profile: Iberville Parish, LA

Situation: This parish of 30,000 residents straddles the Mississippi River with its heavy barge traffic. It is home to 13 chemical manufacturing plants, and a major railroad line runs through every incorporated town and village. To Iberville's public safety director, S.H. "Jackie" Jackson, emergency preparedness is of utmost importance.

Like many other emergency management agencies, the parish contracted with an off-site service bureau to handle their call-outs. However, it was during a night chemical release that Jackson and his Office of Emergency Preparedness found themselves in the middle of a completely mis-handled notification. "The bureau had a cross-up and sent the wrong message to the wrong area," said Jackson. "We were just lucky that the wind was blowing enough to keep the chemical release from causing serious problems here."

That incident alone reinforced Jackson's opinion that his department needed to control the notification process in-house.

Solution: Jackson requested that the Iberville Community Awareness Emergency Response Committee, an advisory group representing local chemical manufacturers, purchase an on-site notification system from Dialogic Communications Corporation (DCC).



"With The Communicator from DCC, the readiness of Iberville parish is higher than its vulnerability."

--S.H. "Jackie" Jackson
Director of Emergency Preparedness
Iberville Parish, LA

The Communicator offers Iberville Parish a long list of notification benefits:

- Automates any manual call-out procedure
- Contacts persons via telephone, cellular and pager
- Frees personnel from repetitive message delivery
- Delivers accurate, timely information or instruction
- Verifies message receipt via touch-tone response
- Prints and faxes easy-to-read call-out reports
- Ensures complete control of the notification effort

Specific benefits experienced by Iberville Parish:

- **Financial** - System installation saved the parish money by eliminating costly service bureau fees, "per call" charges and roster update expenses.
- **MIS** - System integration with Iberville's mapping program provides precise, geographical call-outs.
- **Operations** - System use frees personnel to focus on the situation at hand versus message delivery.
- **EOC** - Easy use and flexibility strengthen the department's cross-training results.