

721.8
PLAINTIFF'S EXHIBIT

SH-2651

INTEROFFICE MEMORANDUM

APRIL 12, 1991

FROM: W. B. AUSTIN, SR. INDUSTRIAL HYGIENIST, HEALTH &
SAFETY, DEER PARK MANUFACTURING COMPLEX

TO: FIELD TEAM MANAGERS
MAINTENANCE MANAGERS

SUBJECT: MINIMUM RESPIRATOR REQUIREMENTS

The charts posted in respirator cabinets specifying minimum respirator requirements for DPMC have been updated and will be installed in all respirator cabinets next week.

Significant changes include the use of combination organic vapor/acid gas cartridges (yellow) in lieu of organic vapor (black) only or acid gas (white) only. Many areas of the complex have potential exposure to both organic materials and acid gases simultaneously. The use of the combination cartridges will provide a greater degree of protection where both potentials exist. Also, the use of 3M 9920 dust masks is being discontinued because we can no longer conduct quantitative fit testing with this mask. The supplier will not provide probed masks which are needed to conduct fit testing. 3M 9970 or a half-face respirator with HEPA cartridges (purple) may be used as substitutes for the 3M 9920. All respirator users must be fit tested in the type of respirator that they are using.

If you have any questions, please contact your BA Health & Safety Representative.

Wayne

Attachment

cc: H&S Staff
H&S Satellite
WBA Chron

LAM 003531

DPMC-09628



DPMC MINIMUM RESPIRATOR REQUIREMENTS

FOR SPECIAL PROBLEMS CALL THE RESPIRATOR SERVICE CENTER, EXT. 6-6386/6-7335.
FOR CONCENTRATION EXCEEDING THE LIMITS GIVEN BELOW, AIR SUPPLIED RESPIRATORS
ARE REQUIRED. FOR EMERGENCIES USE SCOTT AIR PAKS. FOR INFORMATION OR
ADDITIONAL MATERIALS, CONTACT THE SHIFT FOREMAN IN THIS AREA OR CALL
INDUSTRIAL HYGIENE, EXT. 6-7335.

SUBSTANCE	FACEPIECE RESPIRATOR AND/OR		ABOVE:	UPTO:
	TYPE	CARTRIDGE SELECTION		
ACETONITRILE	FF	YELLOW OA OR BLACK OV	40 PPM	1000 PPM
AMMONIA	FF	GREEN AM	25 PPM	250 PPM
ASBESTOS	HF	PURPLE HEPA FILTER	0.2 F/CC	2 F/CC
	FF	PURPLE HEPA FILTER	2 F/CC	10 F/CC
BENZENE	HF	YELLOW OA OR BLACK OV	1 PPM	10 PPM
	FF	YELLOW OA OR BLACK OV	10 PPM	50 PPM
BPA	HF	PURPLE HEPA FILTER OR 9970	10 mg/m ³	50 mg/m ³
BUTADIENE	HF	YELLOW OA OR BLACK OV	2 PPM	20 PPM
	FF	YELLOW OA OR BLACK OV	20 PPM	100 PM
CHLORINE	FF	SUPPLIED AIR ONLY	0.5 PPM	25 PPM
COOLING WATER MIST	HF	PURPLE HEPA FILTER OR 9970		
CUMENE	HF	YELLOW OA OR BLACK OV	50 PPM	500 PPM
DCPD	HF	YELLOW OA OR BALCK OV	5 PPM	50 PPM
DUSTS (NUISANCE)	HF	PURPLE HEPA FILTER OR 9970		
EPICHLOROHYDRIN (ECH)	FF	YELLOW OA OR BLACK OV	1 PPM	50 PPM
ETHYLENE DICHLORIDE	FF	YELLOW OA OR BLACK OV	1 PPM	50 PPM
GASOLINE	HF	YELLOW OA OR BLACK OV	300 PPM	1000 PPM
HYDRAZINE	FF	GREEN AM	0.1 PPM	1.0 PPM
HYDROGEN CHLORIDE	FF	YELLOW OA OR BLACK OV	5 PPM	50 PPM
HYDROGEN SULFIDE	FF	SUPPLIED AIR	10 PPM	300 PPM
		SUPPLIED AIR W/EGRESS	300 PPM	
INORGANIC LEAD	HF	PURPLE HEPA FILTER OR 9970	0.05 mg/m ³	0.5 mg/m ³
ISOPRENE	HF	YELLOW OA OR BLACK OV	50 PPM	500 PPM
MEK	HF	YELLOW OA OR BLACK OV	100 PPM	1000 PPM
MERCAPTAN	FF	SUPPLIED AIR ONLY	0.5 PPM	400 PPM
MESITYL OXIDE	HF	YELLOW OA OR BLACK OV	15 PPM	150 PPM
MIBC	HF	YELLOW OA OR BLACK OV	25 PPM	250 PPM
MIBK	HF	YELLOW OA OR BLACK OV	50 PPM	500 PPM
PHENOL	FF	YELLOW OA OR BLACK OV	1 PPM	50 PPM
SULFUR DIOXIDE	HF	YELLOW OV OR WHITE AG	2 PPM	20 PPM
TARS & PITCH (PCA'S)	HF	YELLOW OA OR BLACK OV WITH DUST COVERS	0.2 mg/m ³	
TOLUENE	HF	YELLOW OA OR BLACK OV	100 PPM	1000 PPM
WELDING FUMES	HF	PURPLE HEPA FILTER OR 9970	SEE DPMC GUIDELINE	
XYLENE	HF	YELLOW OA OR BLACK OV	100 PPM	1000 PPM

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LEGEND:

FF = FULL-FACE RESPIRATOR
HF = HALF-FACE RESPIRATOR
AG = WHITE CARTRIDGE (ACID GAS)

HEPA = PURPLE CARTRIDGE (HIGH
EFFICIENCY PARTICULATE AIR)
OA = YELLOW CARTRIDGE (ORGANIC
VAPOR + ACID GAS)

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RESPIRATOR FIT TEST PROTOCOL DEER PARK MANUFACTURING COMPLEX

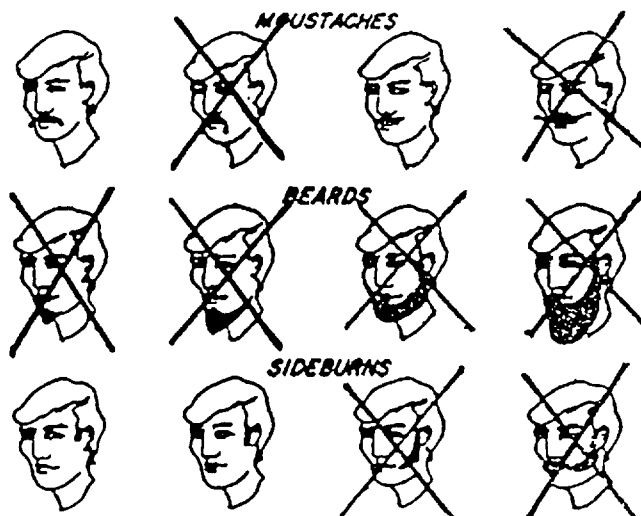
A standardized respirator fit test protocol has been developed for DPMC. The protocol has been patterned after fit test procedures described in the OSHA Benzene Standard (29 CFR 1910.1028). All DPMC employees required to wear an air-purifying (cartridge) respirator, with the exception of insulator craftsmen, will be fit testing in accordance with this protocol. Insulators will be tested in accordance with the OSHA Asbestos Standard (29 CFR 1910.1001) fit test procedures.

This protocol was developed for the following reasons:

- 1) Using a single test procedure eliminates variations and problems associated with using multiple procedures.
- 2) Employees transferring from one area to another in the plant will not need to be re-tested under a different protocol, i.e., non-benzene protocol versus benzene protocol.
- 3) It provides a higher degree of assurance that adequate protection can be achieved.

Employees participating in the respirator fit testing program must comply with DPMC's Facial Hair Policy. This policy, taken from OSHA's Respiratory Protection Standard (29 CFR 1910.134), states there must be no facial hair growth which interferes with the respirator facepiece seal. Figure 1. gives examples of different types of facial hair, which can or cannot interfere with the sealing surface of a respirator. Also, please note that in some cases, over 24 hours growth (stubble) on the face can be considered too much facial hair.

FIGURE 1.



Examples of Different Types of Facial Hair Which Can or Cannot Interfere With The Seal Surface Of A Respirator

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PROCEDURE

1. The test subject will be asked whether or not he/she knows how to put on a respirator.
 - a. If "Yes": Ask subject what type of respirator he/she has worn previously and instruct subject to don this respirator.
 - b. If "No": Demonstrate how the mask should be donned and assist test subject if necessary.
2. Instruct test subject to perform a negative-pressure check by closing off the inlet of the cartridges with the palms of the hands while inhaling so that the facepiece collapses slightly. (Remind test subject that a pressure check should be performed each time he/she wears a respirator.)
3. Test equipment consists of TSI Portacount supported by a computer driven test procedure. The Portacount uses dust particles from ambient room air to measure a respirator fit factor.
4. Test subject's respirator is attached to a sample port on Portacount. Employee is seated at computer terminal and simply follows the prompts on the screen.
5. Fit test activity menu appears on the computer screen. The first ambient sample is taken. The Portacount Data window of the screen then displays the following line of three identifiers:

AMB: MASK: FF:

Where AMB is the ambient concentration measurement, MASK is the mask concentration measurement, and FF is the fit factor transmitted by the Portacount.

6. During the fit-test, the Portacount Data window on the test screen displays the incoming data as it is received. The flashing identifier indicates which value is about to be updated.

After the Portacount completes the last MASK measurement for the exercise, a new exercise description appears. The exercises are listed in sequence of performance below. This procedure continues until all exercises are completed or until a test is terminated.

Perform exercises in the sequence outlined below:

- a. Normal Breathing (1 min.)
- b. Deep Breathing (1 min.)
- c. Turning Head Side to Side (1 min.)
- d. Moving Head Up and Down (1 min.)
- e. Counting Aloud From 1 - 60 (1 min.)
- f. Grimace (30 sec.)
- g. Touch Toes (1 min.)
- h. Normal Breathing (1 min.)

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Note: The testing will take approximately 1 hour and 15 minutes.
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7. When all of the exercises in the test are finished, the message Test Complete appears on the screen. At this point, the overall fit factor is calculated.
8. Three independent tests for each respirator are required and the fit factor shall be the lowest value obtained for each type of respirator. If two of the three required tests are terminated, the test shall be deemed inadequate.
9. THE TEST SUBJECT SHALL NOT BE PERMITTED TO WEAR A HALF-FACEPIECE OR FULL-FACEPIECE NEGATIVE-PRESSURE RESPIRATOR IF A MINIMUM FIT FACTOR OF 100 OR 1000, RESPECTIVELY, CANNOT BE OBTAINED. POSITIVE-PRESSURE RESPIRATORY PROTECTION WILL THEN BE REQUIRED.

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RESPIRATOR AND REGULATOR SYSTEM

PURPOSE:

CREATED TO ACCOUNT FOR STATUS OF RESPIRATOR AND REGULATOR DEVICES RESIDENT AT SHELL DPMC. STATUS IS DEFINED AS THE LOCATION OF THE DEVICE AT ANY TIME, AND INSPECTION RECORDS OF SAME, IF NECESSARY.

METHOD:

BAR CODE LABELS ARE AFFIXED TO THE RESPIRATOR AND REGULATOR DEVICES IN A SPECIFIED MANNER. AS THE DEVICES ARE MOVED TO PLANT LOCATIONS FROM THE SERVICE CENTER AND BACK TO THE SERVICE CENTER FROM THE STORAGE LOCATIONS IN THE PLANT THE BAR CODE IDENTITY OF EACH DEVICE IS "READ" BY A BAR CODE SCANNER.

BAR CODE SCANNER USES A LASER GUN READER WHICH PROVIDES FOR READING THE BAR CODES WITHOUT HAVING TO PHYSICALLY CONTACT THE LABEL. THE BAR CODE SCANNER DIRECTS THE USER TO FOLLOW A SPECIFIC ROUTINE IN DISTRIBUTION OF CLEAN AND PICKUP OF DIRTY RESPIRATORS AND REGULATORS.

SCANNER ROUTINE:

- THERE ARE TWO SEPARATE ACTIVITIES RESIDENT IN THE SCANNER.

" REGULATOR INSPECTION AND RESPIRATOR/REGULATOR MOVEMENT"

#1 REGULATOR INSPECTION

USED TO INPUT INFORMATION ON WHAT IS INSPECTED, THE OVER HAUL DATE, INSPECTION DATE, AND PERSON INSPECTING DEVICE.

#2 RESPIRATOR/REGULATOR MOVEMENT

USED TO INPUT INFORMATION ON WHERE A PARTICULAR DEVICE IS LOCATED IN THE PLANT...WHO MOVED THE DEVICE, WHEN IT WAS MOVED, AND TO WHERE.

THE NEXT PAGE ILLUSTRATES THE USE OF THE SCANNER, THE WORDS THAT COME TO THE SCREEN AND THE ACTIONS THAT ARE TO BE TAKEN WHEN YOU SEE THE WORDS APPEAR.

RESPIRATOR/REGULATOR SYSTEM CONT'D

2.

REGULATOR INSPECTION:

SCREEN SAYS:	ACTION:
APPARATUS:	SCAN BAR CODE I.D. OF APPARATUS.
O.H. DATE:	SCAN BAR CODE I.D. OF OVERHAUL DATE.
INSP. EMPL:	SCAN YOUR BAR CODE EMPLOYEE BADGE.

WHEN OVER HAULING UNITS CALL MARILYN FOR OVERHAUL DATE LABELS

RESPIRATOR/REGULATOR MOVEMENT:

SCREEN SAYS:	ACTION:
1. RES.EMP.I.D.:	SCAN YOUR BAR CODE EMPLOYEE BADGE.
2. ENTR. LOCATION:	SCAN BAR CODE I.D. OF LOCATION.
3. ENTER I OR O:	PRESS EITHER "I" OR "O" ON SCANNER.
"I" MEANS DEVICE IS GOING INTO THE LOCATION.	
"O" MEANS DEVICE IS COMING OUT OF THE LOCATION.	
4. ENTR. RESP.I.D.:	SCAN BAR CODE I.D. OF APPARATUS.

CONTINUE TO SCAN BAR CODE I.D. OF EACH APPARATUS
GOING INTO THIS OR COMING FROM THIS LOCATION TIL
ALL APPARATUS ARE MOVED INTO OR OUT OF LOCATION.

YOU WILL NORMALLY START THIS PROCESS WITH THE PRESSING OF
THE "O" KEY AS THIS IS MOVING THE DIRTY DEVICES OUT FROM
THE LOCATION FIRST. AFTER READING ALL THE DEVICES THAT WERE
DIRTY YOU ARE NOW READY TO PUT CLEAN DEVICES INTO LOCATION.

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REGULATOR/RESPIRATOR SYSTEM CONT'D

3.

ACTION:

5. YOU FIRST PRESS THE "RED" KEY WITH "FUNC" ON IT, THIS IS LOCATED IN THE UPPER LEFT CORNER OF THE SCANNER.

YOU LET UP OFF THE RED "FUNC" KEY AND NOW PRESS "ONCE" THE "DOWN ARROW" KEY LOCATED IN THE LOWER RIGHT CORNER OF THE SCANNER.

THE SCANNER WILL NOW SAY, "ENTER I OR O:" FOLLOW THE SAME PROCEDURE AS DESCRIBED BESIDE OF 3 ON PREVIOUS PAGE, EXCEPT PRESS THE "I" KEY ON THE SCANNER. THIS MEANS THAT YOU ARE NOW GOING TO PUT CLEAN DEVICES INTO THIS LOCATION.

SCANNER AGAIN SAYS, ENTR. RESP. I.D.: YOU SCAN ALL BAR CODE I.D. LABELS ON CLEAN DEVICES AS THEY GO INTO THE LOCATION.

6. YOU HAVE FINISHED AT THIS LOCATION AND YOU ARE READY TO EXCHANGE DEVICES AT THE NEXT "LOCATION". FOLLOW THE INSTRUCTIONS AS IN 5 ABOVE EXCEPT WHEN YOU PRESS THE "DOWN ARROW" KEY, PRESS IT TWICE. THE PRESSING OF THE "DOWN ARROW" KEY MUST BE PRECEDED BY THE PRESSING OF THE "RED", "FUNC" KEY EACH OF THE TWO TIMES. SIMPLY ALTERNATE BETWEEN THE RED FUNC AND THE DOWN ARROW, TWICE.

THE SCANNER WILL SAY: "ENTR. LOCATION#"

ACTION: SCAN THE LOCATION BAR CODE OF THIS LOCATION

THE SCANNER WILL TAKE YOU THROUGH THE PREVIOUSLY DESCRIBED STEPS, ASKING YOU FOR THE INFORMATION IN EXACTLY THE SAME MANNER.

WHEN YOU ARE TRANSFERRING THE DEVICES FROM THE SERVICE CENTER VEHICLE TO THE SERVICE CENTER, YOU WILL PRESS THE "I" KEY ON THE SCANNER TO INDICATED THEY ARE GOING INTO THE SERVICE CENTER. WHEN LOADING THE SERVICE CENTER VEHICLE WITH CLEAN DEVICES, PRESS THE "I" KEY ON SCANNER TO INDICATE THAT CLEAN DEVICES ARE GOING INTO THE SERVICE CENTER VEHICLE. BOTH THE SERVICE CENTER AND THE SERVICE CENTER VEHICLE WILL HAVE BAR CODES AFFIXED TO ALLOW FOR THE SCANNING OF THESE LOCATIONS.

ALL LOCATIONS OF A GIVEN TYPE WILL HAVE THE BAR CODE AFFIXED IN THE SAME MANNER PER LOCATION. THIS ALLOWS QUICK SCANNING WITHOUT HUNTING FOR IT.

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RESPIRATOR/REGULATOR SYSTEM CONT'D

4.

THIS COVERS THE TWO ACTIVITIES PERFORMED WITH THE SCANNER. TO MAKE A CHOICE BETWEEN ONE OR THE OTHER, FOLLOW THESE INSTRUCTIONS.

TURN SCANNER "ON" BY PRESSING THE "ON" KEY.

I.

PRESS THE "RED" "FUNC" KEY ONCE, "IMMEDIATELY" LET UP OFF THIS KEY AND PRESS THE "N" KEY ONCE. YOU WILL NOW SEE ON THE SCREEN THE WORD "REGULATOR". IF YOU DESIRE TO INSPECT REGULATORS, OR OVERHAUL REGULATORS PRESS THE ENTER KEY.

II.

IF YOU DESIRE TO DISTRIBUTE CLEAN DEVICES AND PICK UP DIRTY DEVICES INSTEAD, PRESS THE "DOWN ARROW KEY" ONCE. THE SCANNER SCREEN WILL NOW SAY, "RESPIRATOR". PRESS THE ENTER KEY ONCE AND THE RESPIRATOR PROGRAM WILL IMMEDIATELY BEGIN THE SEQUENCE AS DESCRIBED IN REGULATOR/RESPIRATOR MOVEMENT ON PAGE NUMBER 2.

AT ANY POINT WHERE YOU HAVE CONCLUDED ONE ACTIVITY, FOR EXAMPLE YOU ARE FINISHED INSPECTING, SIMPLY PRESS THE "RED" "FUNC" KEY AS INSTRUCTED AND THEN PRESS THE "N" KEY WHERE YOU THEN DOWN ARROW TO THE ACTIVITY YOU ARE NOW GOING TO DO. PRESSING THE ENTER KEY WILL IMMEDIATELY BEGIN THE NEW ACTIVITY SCANNING ROUTINE.

AS YOU MOVE WORK THE SCANNER MAY GO TO SLEEP, THAT IS TO SAY THAT IT WILL CUT OFF AUTOMATICALLY. BY SIMPLY PRESSING THE ON KEY ONCE, THE SCANNER WILL PICK BACK UP WHERE YOU LAST LEFT IT.

MANUAL ENTRIES:

ON OCCASION YOU MAY NOT BE ABLE TO READ A BAR CODE. THIS WILL BE DUE TO DAMAGE OF THE BAR CODE. THIS WILL REQUIRE INFORMATION ENTRY BY THE KEY PAD OF THE SCANNER. WHEN THIS OCCURS, DO SO IN A SMOOTH MANNER. THIS WILL BE FOLLOWED BY THE PRESSING OF THE ENTER KEY IN SOME ENTRY FIELDS. TO TELL IF THE ENTER KEY NEEDS TO BE PRESSED, IF THE SCANNER DOES NOT AUTOMATICALLY ADVANCE TO THE NEXT SCREEN WITH YOUR KEYED ENTRY STILL SHOWING...PRESS ENTER.

ALL LOCATION IDENTIFIERS HAVE AN "X" BEFORE THE LOCATION NUMBER. WHEN YOU READ THE BAR CODE LABELS YOU DO NOT SEE THIS. WHEN MANUAL ENTRY IS REQUIRED FOR A LOCATION YOU WILL ALWAYS PRESS THE "X" KEY BEFORE ENTERING THE LOCATION NUMBER, THEN PRESS ENTER.

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RESPIRATOR/REGULATOR SYSTEM CON'T

5.

APPARATUS I.D. NUMBERS ALWAYS HAVE SCBA PRECEEDING THE DEVICE I.D. NUMBER. YOU WILL ENTER THE SCBA IN THE SAME MANNER AS THE "X" DESCRIBED IN THE PREVIOUS PARAGRAPH.

WHEN MANUALLY ENTERING DATA THE SCANNER WILL ONLY ACCEPT DATA OF CORRECT LENGTH, TYPE AND LETTER DESIGNATIONS. THE SCANNER WILL USUALLY TELL YOU THE NATURE OF AN ERROR IF ONE OCCURS. FOR EXAMPLE: "ENTRY TOO LONG", "ENTRY TOO SHORT", THESE STATEMENTS APPEAR ON THE SCREEN, JUST AS THE PROMPTS DO. WHEN ONE OCCURS, READ IT, PRESS THE CLEAR KEY AND REENTER YOUR INFORMATION.

ABOVE ALL ELSE, IF AN ERROR MESSAGE OCCURS, PRESS CLEAR REENTER DATA...IF ERROR OCCURS AGAIN, DO NOT RETRY... SIMPLY REVIEW THE SITUATION AND THE REQUIREMENTS ASKED FRO ON THE SCANNER SCREEN BEFORE REENTRY PROCESS. THIS DEVICE IS MEARLY AN ELECTRONIC NOTEPAD. IT KNOWS ONLY WHAT "YOU" TELL IT...IT SIMPLY CAN ACCEPT INPUT ONLY IF IT FITS THE CIRCUMSTANCE.

AGAIN MANUAL ENTRIES ARE FEW AND TYPICALLY WILL OCCUR IN ENTRY OF A DEVICE I.D. NUMBER. THE I.D. NUMBER IS ON THE LABEL IN HUMAN READABLE. SIMPLY ENTER THE I.D. EXACTLY AS IT IS SHOWN IF NECESSARY.

ULTIMATELY THERE WILL BE DEVICES THAT THE LABEL NO LONGER IDENTIFIES. THE ABUSE OF, OR REPEATED CLEANING OF, WILL ALSO PRESENT CIRCUMSTANCES WHERE THE LABEL / DEVICE I.D. CAN NO LONGER BE MADE. WHEN THIS OCCURS, SIMPLY PLACE THE DEVICE SEPARATE FROM THE OTHERS. UPON RETURN TO THE SERVICE CENTER CALL MARILYN DICKSON AT EXT.7335 REQUESTING LABELS OF A PARTICULAR TYPE AND SPECIFICATION, SHE WILL NEED TO KNOW THE TYPE, SIZE AND QUANTITY OF EACH.

SYSTEM IS DESIGNED TO PROVIDE A MINIMUM AMOUNT OF HUMAN MANUAL INPUT OF INFORMATION. WHEN USING THE LASER BAR CODE READER TO READ BAR CODES, HOLD THE GUN AT A DISTANCE OF 6 TO 10 INCHES FROM THE LABEL. MANY LABELS CAN BE READ FROM A DISTANCE OF UP TO TWENTY TWO INCHES AWAY. YOU WILL FIND THE OPTIMUM READ DISTANCE FOR EACH LABEL CATAGORY EASILY.

LABELS AFFIXED TO DEVICES MUST BE PLACED SO THAT THE BLANK SPACE IN FRONT AND BEHIND THE BAR CODE IS VISIBLE TO THE LASER. PLASTIC BAG ENCLOSURE SHOULD BE DEPRESSED ONTO THE BAR CODE LABEL AS THE HEAT SEALER IS CLOSED. THIS WILL REDUCE THE AIR SPACE BETWEEN THE PLASTIC AND THE SURFACE OF THE LABEL.

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6.

THIS CONCLUDES THE OVERVIEW OF THE RESPIRATOR/REGULATOR IDENTIFICATION SYSTEM. PLACE THIS IN A SAFE REFERENCE LOCATION AFTER FURTHER STUDY. A LAMINATED COPY SHOULD REMAIN IN THE SERVICE CENTER AND THE SERVICE CENTER VEHICLES.

SINCERELY,

ED CLAYMAN

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DFMC-09038