# AFFF FIREFIGHTING SYSTEMS





# **AFFF SYSTEMS**

HIGH CAPACITY SYSTEMS

CLEAR TO SLIGHTLY AMBER APPEARANCE

■ INDEFINITE SHELF LIFE

STORE AT TEMPERATURES >32°F (if AFFF freezes, it may be used after thawing)
 94% WATER / 6% FOAM MIX

MIXES WITH WATER TO FORM AN AQUEOUS FILM WHICH EXCLUDES OXYGEN FROM THE SURFACE OF THE FUEL

 COOLS DUE TO WATER CONTENT
 EXCELLENT PENETRATING CHARACTERISTICS / SUPERIOR TO WATER ON CLASS "A" FIRES

GENERAL PRECAUTIONS ◆ AFFF IS **EXTREMELY** CORROSIVE ENSURE SYSTEM IS PROPERLY ALIGNED FOLLOWING EACH USE AVOID INADVERTENT CONTACT WITH **ELECTRICAL EQUIPMENT** ♦ WHEN SYSTEM MAINTENANCE IS BEING PERFORMED ENSURE YOU ARE KEPT **ABREAST OF FIRE FIGHTING CAPABILITY** 

GENERAL PRECAUTIONS

SOME FORMATION/COLLECTION OF H<sub>2</sub>S MAY OCCUR IN PIPING/AREAS WHERE AFFF STANDS STAGNANT FOR A PERIOD OF TIME, PARTICULARLY IN THE BALANCED PROPORTIONING SYSTEM

OVERBOARD DISCHARGE REQUIREMENTS

<3 NM FROM LAND - NO OVERBOARD DISCHARGE

3 - 12 NM FROM LAND - DISCHARGE PERMITTED IF SHIP SPEED IS 10 KTS OR HIGHER

>12 NM FROM LAND - DISCHARGE AS REQUIRED

DC DECK RE-ENTRY HOSE REELS

 125' NON COLLAPSIBLE RUBBER HOSE WITH 1<sup>1/2</sup> INCH 95 GPM VARI NOZZLE (100' ON MHC)

HOSE REEL CUTOUT VALVE <u>NORMALLY</u> <u>CLOSED</u>

 ENGINEERING SPACE HOSE REELS
 50' NON COLLAPSIBLE RUBBER HOSE WITH 1<sup>1/2</sup> INCH 95 GPM VARI NOZZLE
 HOSE REEL CUTOUT VALVE LOCKED OPEN.

 ENGINEERING SPACE HOSE REELS
 27 LB PORTABLE PKP CYLINDER LOCATED NEAR EACH AFFF HOSE REEL

AFFF SYSTEM COMMON ITEMS SERVICE VALVE TEST CASTING ◆ ALLOWS FOR TESTING OF BILGE SPRINKLING SYSTEM WITHOUT **SPRINKLING THE BILGES** AFFF CONCENTRATE TANKS ♦ MANUFACTURED FROM 9010 CUNI OR **STAINLESS** ◆ VENT/VACUUM BREAKER .05PSIG/.05"Hg

# SERVICE VALVE TEST CAST FITTING

#### BILGE SPRINKLING SERVICE VALVE



# FIXED EDUCTOR SYSTEM HIGH POINTS FOUND ON MHC / MCM $\bullet$ MCM **FORWARD TANK CAPACITY 50 GL FAFT TANK CAPACITY 200 GL** ◆ MHC **TANK CAPACITIES 75 GL FWD / AFT**

# FIXED EDUCTOR SYSTEM

- TANKS ARE REFILLED VIA GRAVITY FROM STORAGE TANK LOCATED NEAR STACKS
- PMS CHECK FOR AFFF CONCENTRATE SEAWATER CONTAMINATION IS DONE QUARTERLY
- OVERHEAD SPRINKLERS INSTALLED IN MHC CLASS SHIPS



# 2 SPEED INJECTION SYSTEMHIGH POINTS

- PUMPS RATED AT 27/65 GPM @175 PSI
  - 27 GPM LOW FLOW RATE DEMAND USER (HOSE LINE, ELEVATOR SRINKLER, etc)
  - GPM HIGH FLOW RATE DEMAND USER (HANGAR SPRINKLER, etc)
  - POSITIVE DISPLACEMENT ROTARY VANE TYPE PUMP
  - **MOTOR CONTROLLER POWERED FROM ABT**
  - START LOCAL/ REMOTE. MUST BE STOPPED LOCALLY



# SINGLE SPEED AFFF SYSTEM

 HIGH POINTS
 SERVICES HANGAR AND FLIGHT DECK AREAS, PUMP ROOMS
 FLUSH DECK NOZZLES
 DECK EDGE NOZZLES
 ELECTRIC PUSHBUTTON AT EACH HOSE

OUTLET

# HIGH CAPACITY AFFF SYSTEM

HIGH POINTS
 TYPES INSTALLED IN NAVY SHIPS
 BALANCED PRESSURE PROPORTIONER
 ELECTRIC 2 SPEED AFFF PUMP SYSTEM
 HIGH CAPACITY SINGLE SPEED PUMP

### SUMMARY

FOAM GENERATING SYSTEMS
 2 SPEED INJECTION SYSTEM
 HIGH CAPACITY SYSTEMS

# **REVIEW QUESTION**

- WHAT RULES APPLY WITH RESPECT TO THE DISCHARGE OF AFFF INTO THE SEA WHEN:
  - INPORT / 3NM FROM LAND?
  - ◇PROHIBITED
  - 3 -12 NM FROM LAND?
    IF SHIP SPEED IS > 10 KTS
    >12 NM FROM LAND?
    DISCHARGE AT WILL

# **REVIEW QUESTION**

DESCRIBE THE ACTIVATION SEQUENCE IN A 2 SPEED INJECTION SYSTEM WHEN THE LOW FLOW RATE DEMAND CIRCUIT IS ENERGIZED.

THE MASTER SOPV IS ENERGIZED, STARTING THE AFFF CONCENTRATE PUMP ON SLOW AND OPENING THE HYCHECK AND POWERCHECK VALVES AS WELL AS ENERGIZING THE SOPV FOR THE LOW FLOW RATE GROUP (MINUS HOSE REELS)

# **REVIEW QUESTION**

- WHAT ARE SOME OF THE DIFFERENT TYPES OF HIGH CAPACITY AFFF STATIONS?
- BALANCED PRESSURE PROPORTIONER
- 2 SPEED INJECTION SYSTEM
- SINGLE SPEED INJECTION SYSTEM

# INSTALLED FIREFIGHTING SYSTEMS



