

TANK FARM FIRES
STRATAGY & TACTICS

FOR

NY FIREFIGHTERS BURN FOUNDATION

AT

RANDALL'S ISLAND SEPT. 18,1993

BY

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TYPES OF BULK STORAGE TANKS

- CONE ROOF TANK
- OPEN FLOATING ROOF
- OPEN FLOATER WITH GEODESIC DOME
- COVERED FLOATING ROOF
- LOW PRESSURE HORIZONTAL TANK
- HIGH PRESSURE HORIZONTAL TANK
- VERTICAL DOME ROOF TANK
- UNDERGROUND STORAGE
- SPHERICAL STORAGE TANK
- CRYOGENIC LIQUID STORAGE TANK

CONE ROOF TANK

- ATMOSPHERIC TANK
- MAY HAVE INSULATION
- FLAMMABLES / COMBUSTIBLES / CORROSIVES
- WEAK ROOF TO SHELL SEAM

OPENING FLOATING ROOF

- ATMOSPHERIC TANK
- FLAMMABLES & COMBUSTIBLES
- WIND GIRDER AROUND TOP OF TANK
- LADDER ON ROOF
- ROOF IS PONTOON FLOATS ON PRODUCT
- HAS BEST FIRE SAFETY RECORD
- CAPACITIES 50,000 TO 1,000,000 + GAL.

OPEN FLOATER WITH GEODESIC DOME

- ATMOSPHERIC TANK
- FLAMMABLES & COMBUSTIBLES
- LIGHTWEIGHT COVER
- KEEPS ICE, SNOW FROM TIPPING ROOF
- WIND GIRDER AROUND TOP OF TANK
- LADDER ON ROOF
- ROOF IS PONTOON FLOATS ON PRODUCT

COVERED FLOATING ROOF

- ATMOSPHERIC TANK
- FLAMMABLE / COMBUSTIBLE LIQUIDS
- CONE WITH INTERNAL FLOATER
- LARGE VENT FOUND ON TOP

LOW PRESSURE HORIZONTAL TANK

- ATMOSPHERIC TANKS
- FLAMMABLES / COMBUSTIBLES ,
CORROSIVES / POISONS
- INTEGRITY OF SUPPORTS CRITICAL

HIGH PRESSURE HORIZONTAL TANK

- PRESSURE CONTAINER
- FLAMMABLES, AMMONIA
- SINGLE SHELL NON INSULATED
- ROUNDED ENDS
- PAINTED HIGHLY REFLECTIVE COLOR
- CAPACITIES 1,000 TO 30,000 GALLONS

VERTICAL DOME ROOF TANK

- LOW PRESS 2.5 TO 15 PSI.
- FERTILIZERS, SOLVENTS, FLAMMABLES & COMBUSTIBLES
- TANK TO SHELL SEAM MAY NOT BE DESIGNED TO FAIL

UNDERGROUND STORAGE

- 10% OR MORE INCLUDING PIPING
- ATMOSPHERIC TANK
- PETROLEUM PRODUCTS
- HORIZONTAL STEEL OR FIBERGLASS
- CLUES VENTS / FILL PORTS
-

SPHERICAL TANKS

- SINGLE SHELL
- GASES ALL TYPES
- PAINTED HIGHLY REFLECTIVE
- CAPACITIES 600,000

CRYOGENIC LIQUID STORAGE TANKS

- MEDIUM TO HIGH PRESSURE
- INSULATED THERMOS TYPE
- LOX, NITROGEN, CARBON DIOXIDE
- CAPACITIES 400,000 + GALLONS

TACTICS & STRATEGY

- KNOW YOUR ADVERSARY
- DECIDE OFFENSIVE / DEFENSIVE
- SYSTEMATIC APPROACH
- PLAN FOR RAPID WITHDRAWAL

KNOWING YOUR ADVERSARY

- TYPE OF CONTAINER
- HAZARDS / RISKS OF PRODUCT & CONTAINER
- FIRE PROTECTION SYSTEMS AVAILABLE
- WHAT IS THREATENED (EXPOSURES)
- CAPACITY / SURFACE AREA
- RELATED MECHANICAL EQUIPMENT (PUMPS, PIPING SYSTEMS)

DECIDE OFFENSIVE / DEFENSIVE

DEFENSIVE

OFFENSIVE

- TRAINED PERSONNEL
- ENOUGH OF THE PROPER EQUIPMENT
- ENOUGH EXTINGUISHING AGENT ON HAND
- ADEQUATE WATER SUPPLY

SYSTEMATIC APPROACH

- SHUT OFF PUMPS TO FILL PLATFORMS
- EXTINGUISH GROUND & PIPELINE FIRES FIRST
- TAKE ON ONE TANK AT A TIME
- DIRECT EXTINGUISHING AGENT INTO WINDOW NOT FROM SEVERAL POINTS
- COOL TOPS OF EXPOSED TANKS
- DON'T OVERFLOW DIKES

PLANNING FOR RAPID WITHDRAWAL

- **PLAN FOR THE WORST**
- **POSITION APPARATUS PROPERLY**
- **HAVE A SECONDARY MEANS OF EGRESS**
- **USE UNMANNED MONITORS WHERE POSSIBLE**
- **DON'T GET TRAPPED BEHIND FENCES OR GATES**