

Marina Fueling Facilities

4th Annual CUPA Conference

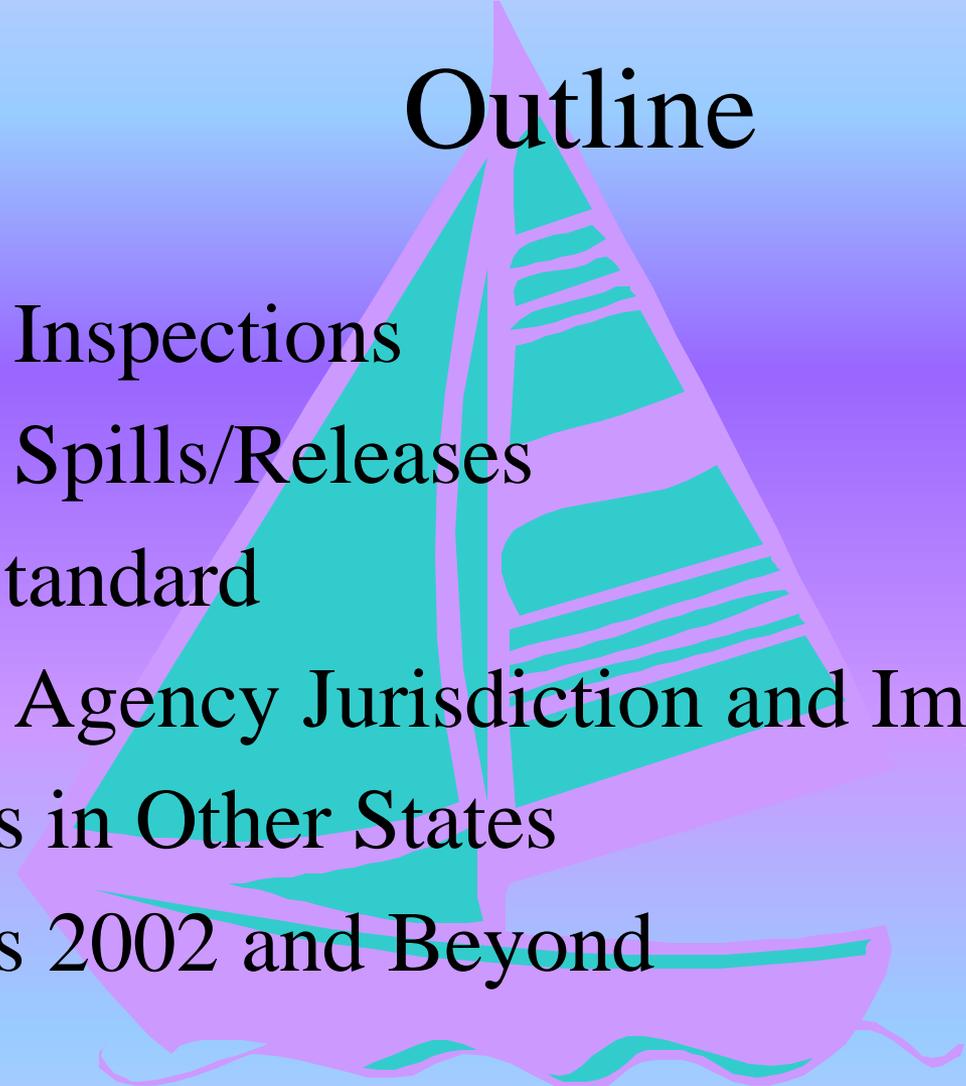
February 7, 2002

Santa Clara, California

Laura Chaddock

State Water Resources Control Board

Outline



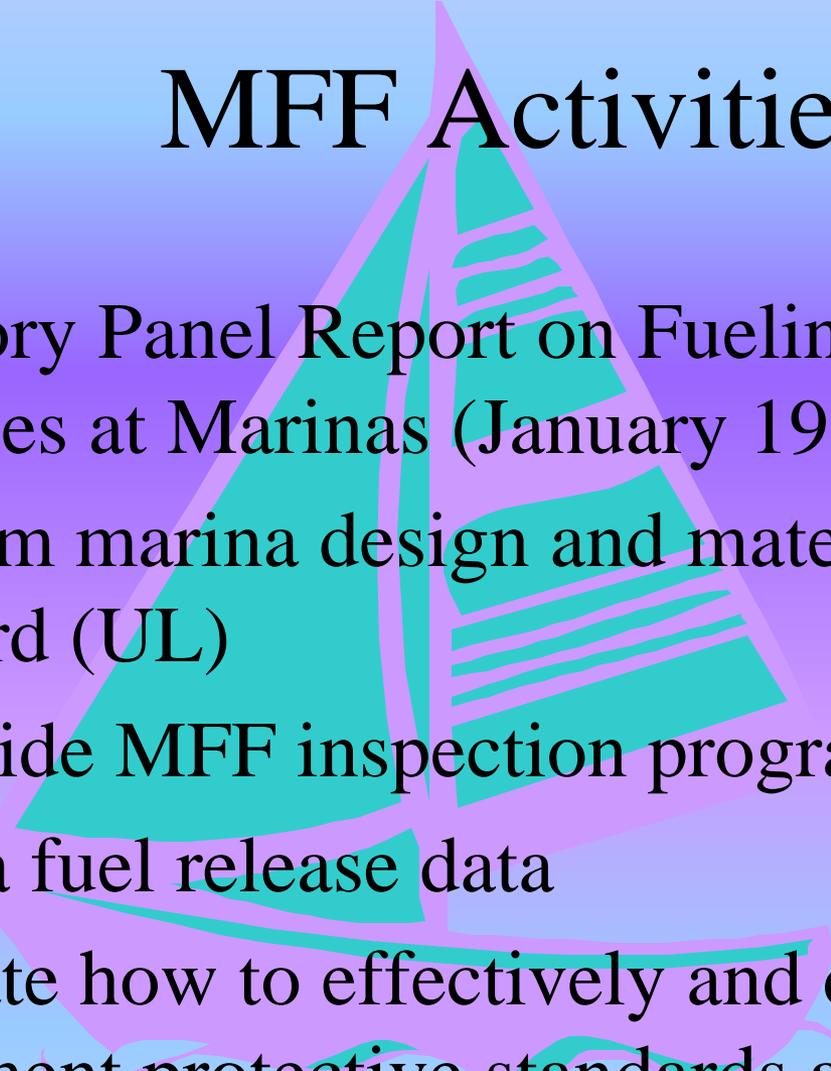
- MFF Inspections
- MFF Spills/Releases
- UL Standard
- MFF Agency Jurisdiction and Implementation
- MFFs in Other States
- MFFs 2002 and Beyond

What is a MFF?



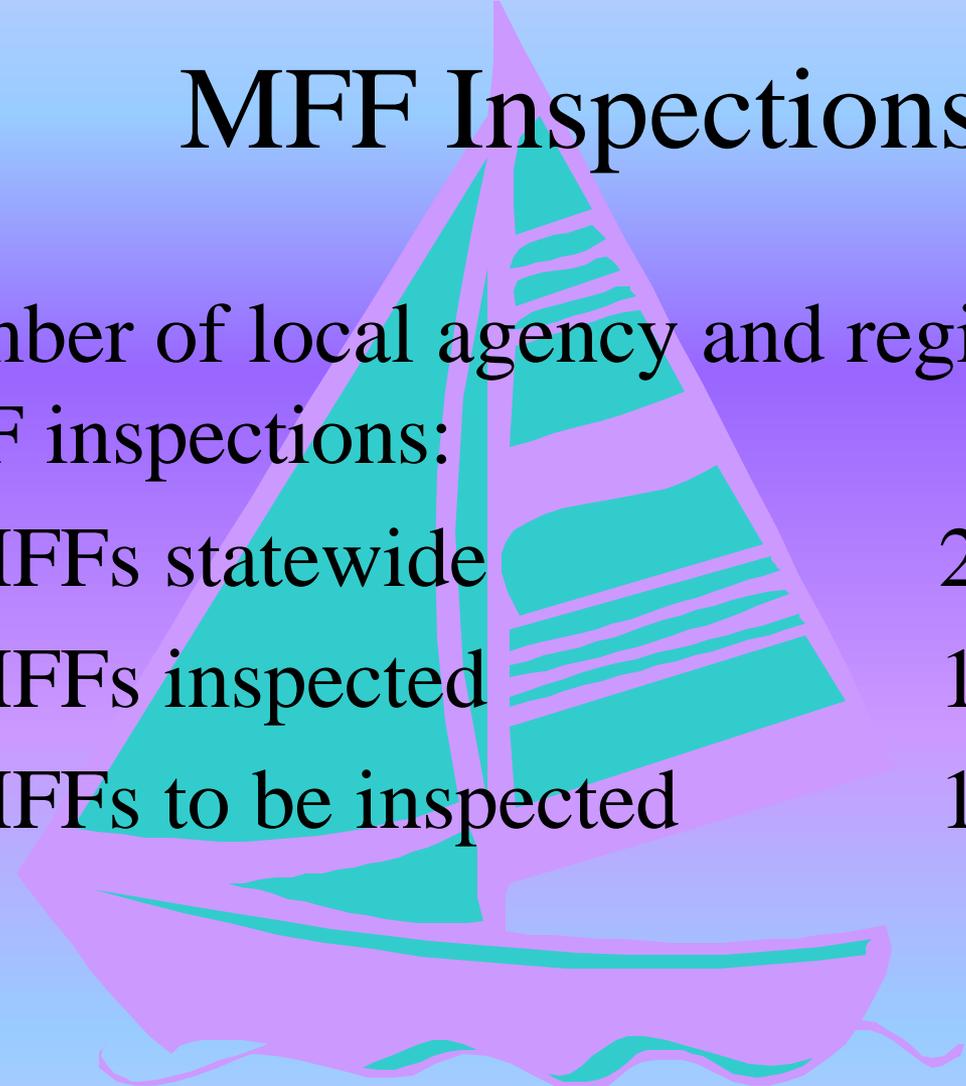
- Marina Fueling Facilities (MFFs) are aboveground and underground fuel storage and transfer systems located at marinas that dispense fuel on or near the shoreline of a waterway, or over water
- Currently underground storage tanks (USTs) at MFFs are required to comply with Title 23, California Code of Regulations
- Aboveground tank (AGTs) are required to comply with a different set of rules as provided in Chapter 6.67 of the California Health and Safety Code

MFF Activities



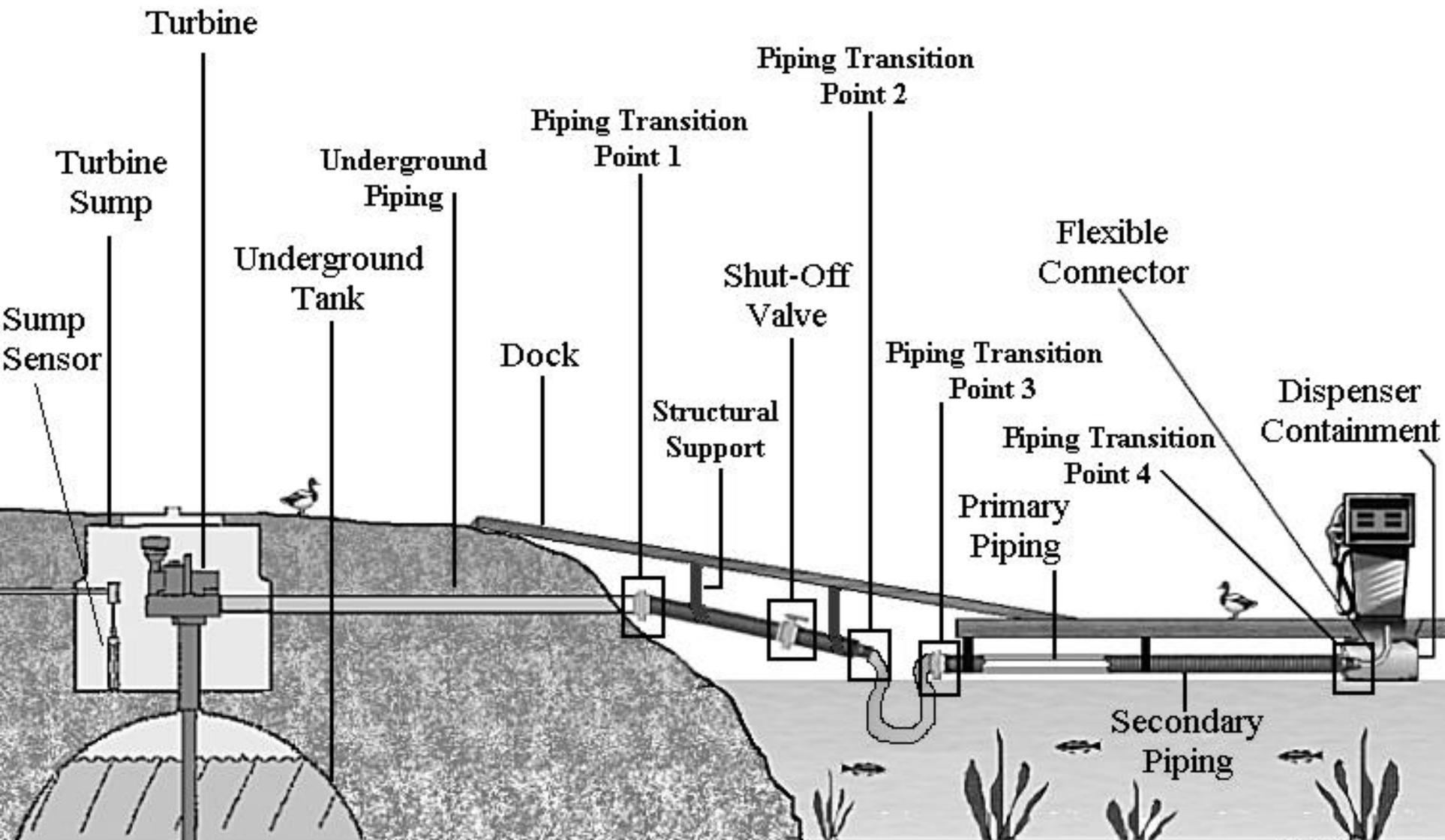
- Advisory Panel Report on Fueling & Refueling Practices at Marinas (January 1999)
- Uniform marina design and material standard (UL)
- Statewide MFF inspection program
- Marina fuel release data
- Evaluate how to effectively and consistently implement protective standards at MFFs
- Funding

MFF Inspections



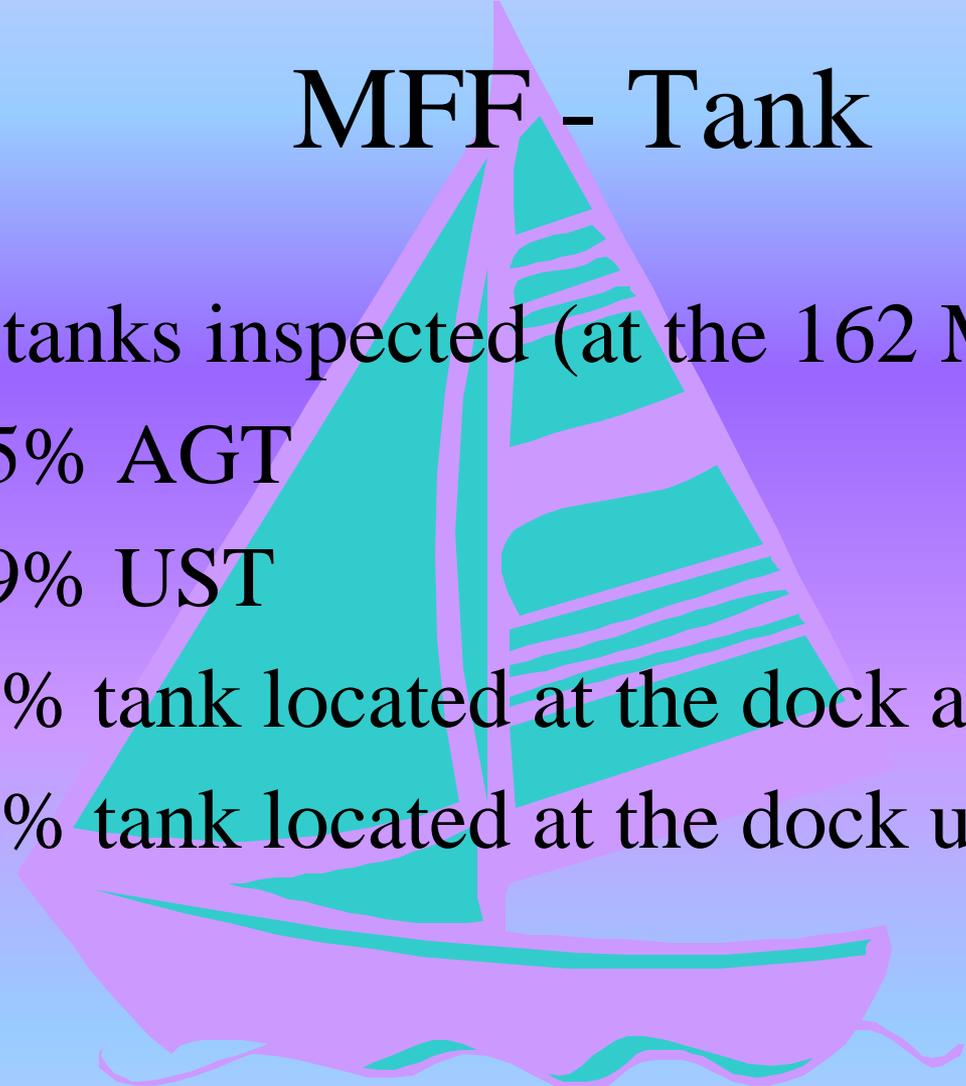
- Number of local agency and regional board MFF inspections:
 - MFFs statewide 267
 - MFFs inspected 162
 - MFFs to be inspected 105

Typical Underground Storage Tank Marina Fueling Facility



Dock and piping design shown above may also be connected to an above ground storage tank

MFF - Tank



- 232 tanks inspected (at the 162 MFFs) are:
 - 45% AGT
 - 39% UST
 - 9% tank located at the dock above-water
 - 7% tank located at the dock underwater

MFF - Tank

- Tank size: 170 - 20,000 gallons
- Annual tank thru-put: 100 - 500,000 gallons

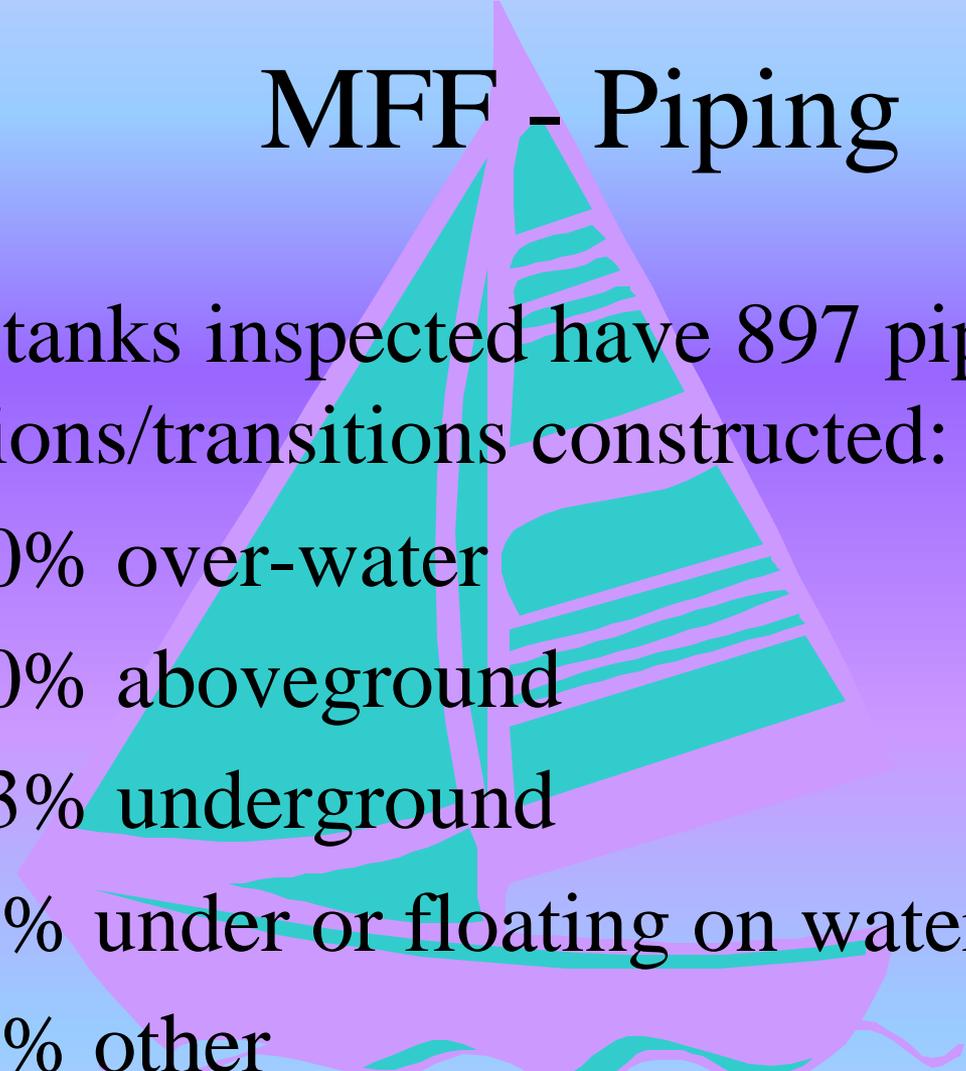
MFF - Tank

- Tank construction:
 - 54% double-walled
 - 23% single-walled
 - 14% alternative secondary containment
 - 9% other

MFF - Tank

- Tank monitoring:
 - 50% visual
 - 50% electronic (i.e. automatic tank gauging or interstitial sensors)

MFF - Piping

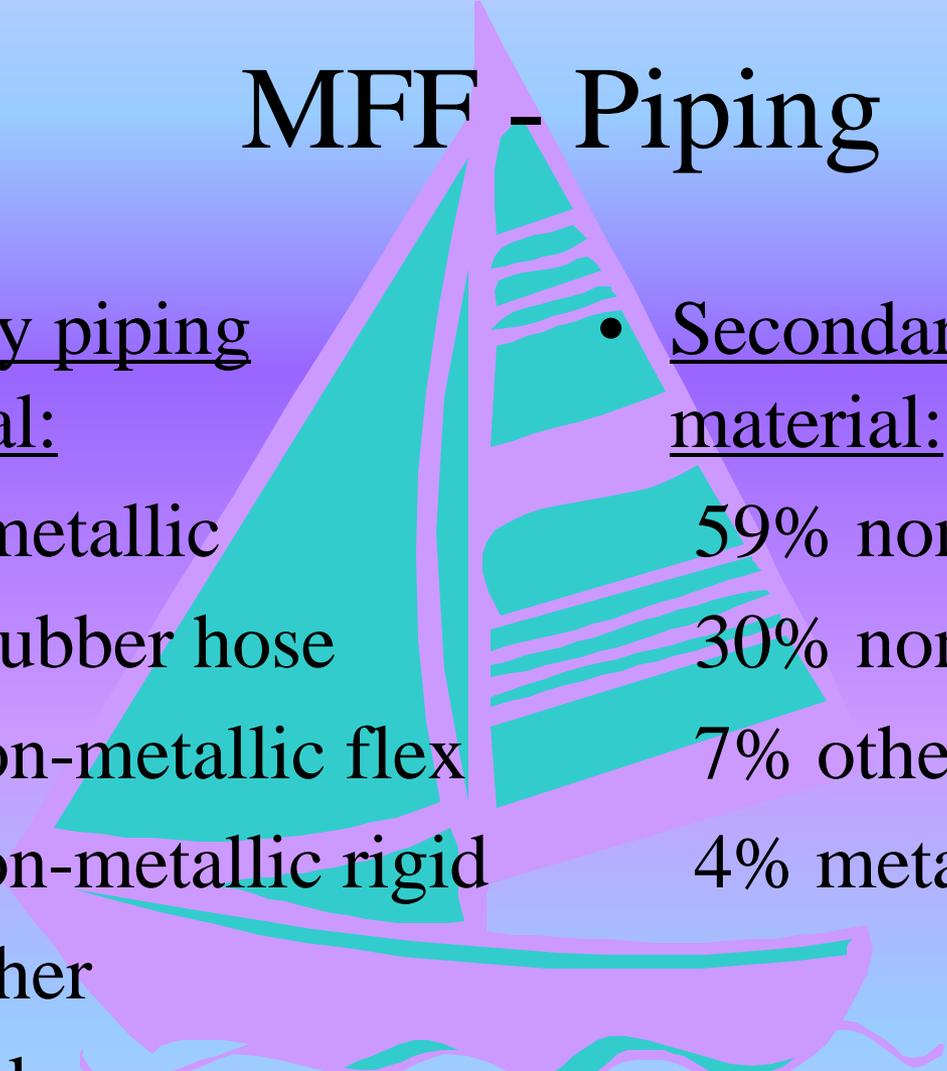


- 232 tanks inspected have 897 piping sections/transitions constructed:
 - 50% over-water
 - 30% aboveground
 - 13% underground
 - 3% under or floating on water
 - 4% other

MFF - Piping

- Piping construction:
 - 73% single-walled
 - 27% double-walled

MFF - Piping



- Primary piping material:

56% metallic

25% rubber hose

8% non-metallic flex

7% non-metallic rigid

2% other

2% unknown

- Secondary piping material:

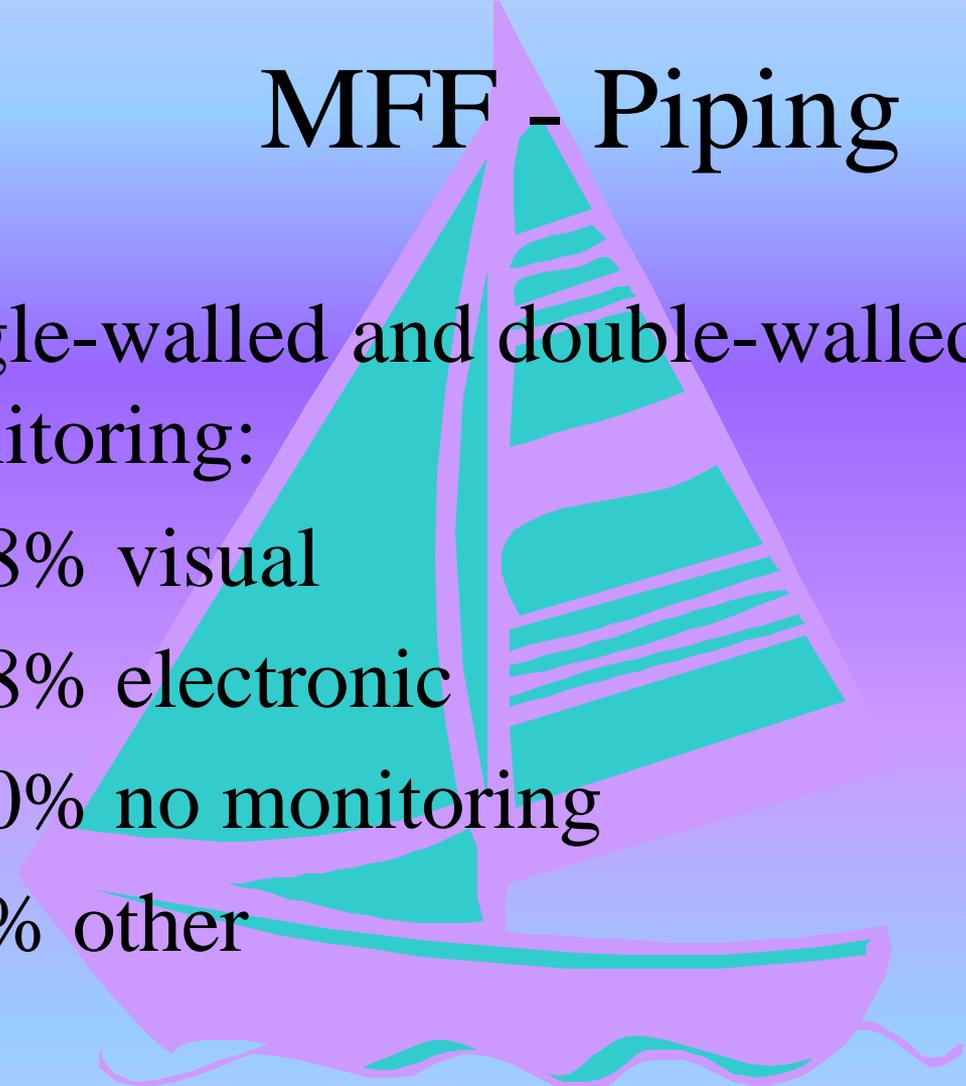
59% non-metallic rigid

30% non-metallic flex

7% other

4% metallic

MFF - Piping



- Single-walled and double-walled piping monitoring:
 - 48% visual
 - 28% electronic
 - 20% no monitoring
 - 4% other

MFF - Spills/Releases



- Release data from spills (at marinas) reported to the Office of Emergency Services from 1997 - 1999:
 - 65 releases during bulk transfers or operations at marine terminal facilities
 - 37 releases from dispensing operations
 - 13 fueling system failures
 - 23 miscellaneous
 - 84 other

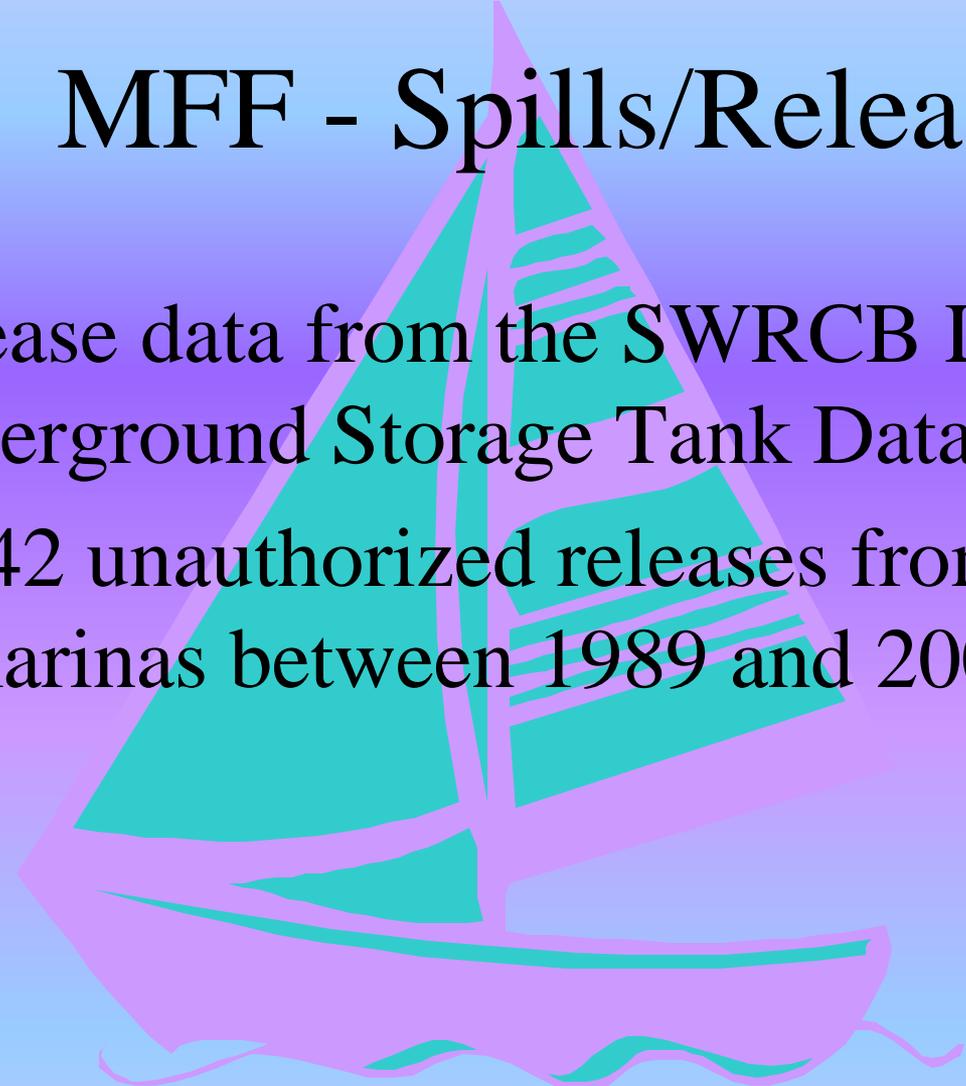
Preliminary Data

MFF - Spills/Releases



- Release data from spills (at marinas) reported to the Office of Emergency Services from 1997 - 1999:
 - 222 spills reported at marinas
 - 195 of those were to California waterways

MFF - Spills/Releases



- Release data from the SWRCB Leaking Underground Storage Tank Database:
 - 142 unauthorized releases from USTs at marinas between 1989 and 2000

MFF - Spills/Releases



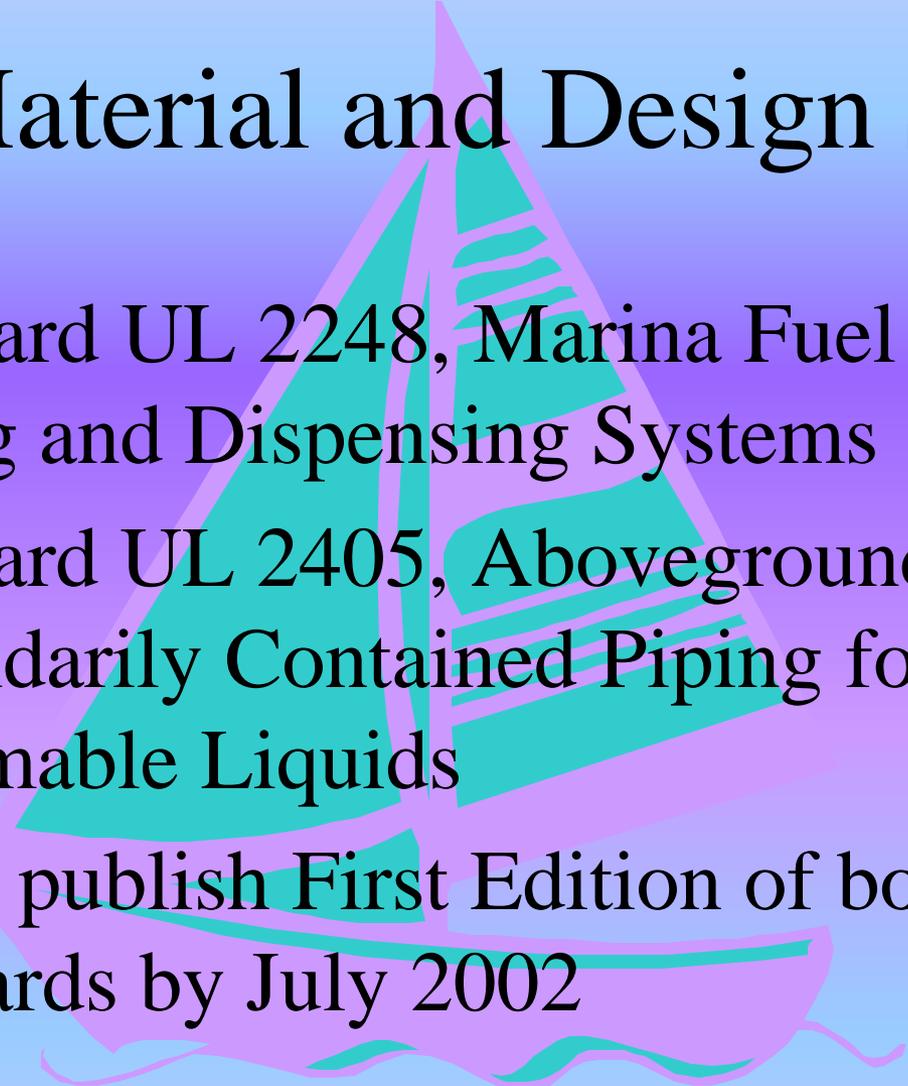
- Environmental and water quality effects:
 - Fuel components dissolve slowly in water, cling to particles and sediments in marine environments
 - Some fuel components are toxic to marine plants and animals even at low concentrations, and can cause cancer mutations and/or birth defects

MFF - Spills/Releases

- Behavioral changes in shellfish and fish
- Discoloring and bad taste in fish flesh
- Fuel components accumulate in sediments, marine plants, and animals
- Impact to drinking water sources



UL Material and Design Standard



- Standard UL 2248, Marina Fuel Storage, Piping and Dispensing Systems
- Standard UL 2405, Aboveground Secondarily Contained Piping for Flammable Liquids
- UL to publish First Edition of both standards by July 2002

Agency Jurisdiction and Implementation

- State Water Resources Control Board and Nine Regional Water Quality Control Boards
 - Oversee implementation of UST leak prevention program
 - Oversee implementation of AGT spill prevention program
 - Implement and permit NPDES, TMDL, and NPS discharges

Agency Jurisdiction and Implementation

- Local Implementing Agencies
 - Implement UST leak prevention program through permitting and inspection
- Local Fire Agency
 - Implement state and national fire codes through permitting and inspection
- Department of Toxic Substance Control
 - Hazardous material transport, treatment, storage, disposal and recycling

Agency Jurisdiction and Implementation

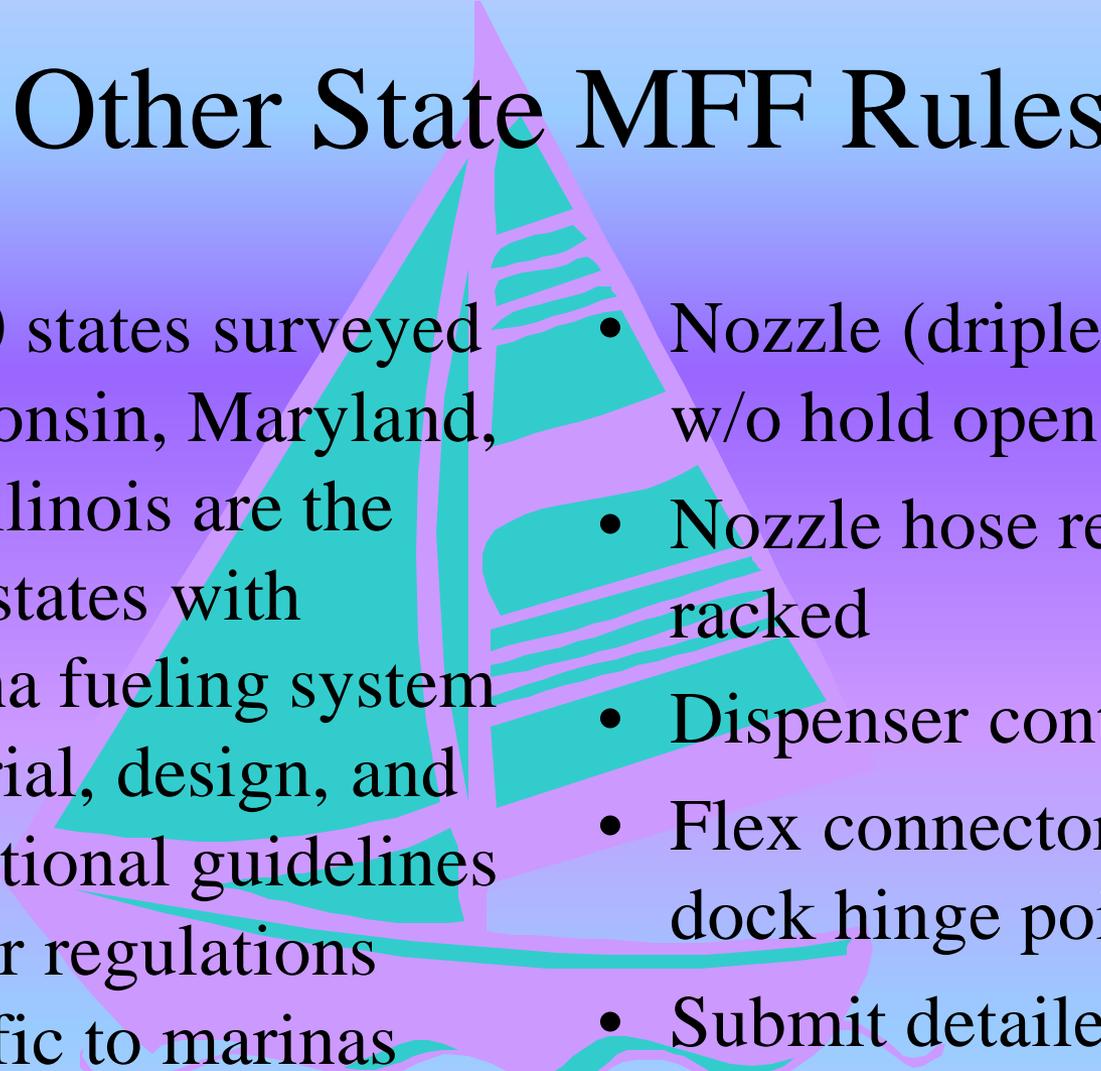
- Department of Boating and Waterways
 - Regulate discharge of oil into or upon the navigable waters of the state, and the transfer of petroleum, chemicals or other hazardous substances between shore and vessel
- State Lands Commission
 - Review fueling design during commercial lease approval process on lands under jurisdiction of the state

Agency Jurisdiction and Implementation



- Department of Fish and Game
 - Require spill contingency plans for all marine facilities; Enforce laws designed to prevent, respond, and investigate spills
- California Coastal Commission
 - Spill prevention and clean up

Other State MFF Rules



- Of 50 states surveyed Wisconsin, Maryland, and Illinois are the only states with marina fueling system material, design, and operational guidelines and/or regulations specific to marinas
 - Nozzle (dripless and w/o hold open latch)
 - Nozzle hose reeled or racked
 - Dispenser containment
 - Flex connectors and dock hinge points
 - Submit detailed plans for construction

MFFs - 2002 and Beyond

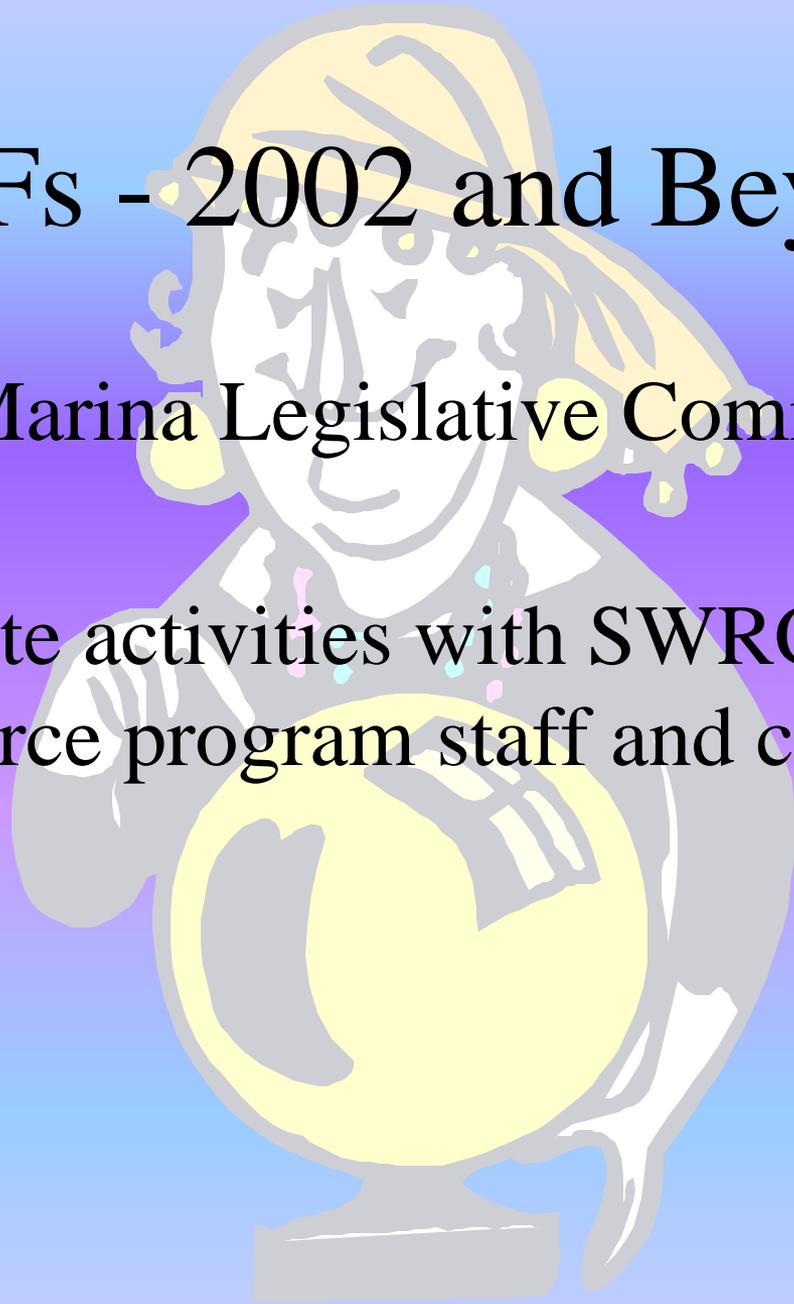
- Educating local agencies, owner/operators and manufacturers of potential upcoming requirements through presentations to the Marina Recreation Association, Coastal Commission - Clean Boating Network, Marina Oil Recovery Conference, and other UST/AGT conferences and workshops.
- Letter to all known marina facilities with fueling systems detailing SWRCB activities.

MFFs - 2002 and Beyond

- We plan to propose funding sources be made available for fueling system upgrades, and are working with Department of Boating and Waterways to evaluate potential funding sources.
- Continue to encourage marina organizations and marina legislative committees to secure funding sources for fueling system upgrades.

MFFs - 2002 and Beyond

- Update Marina Legislative Committee quarterly
- Coordinate activities with SWRCB non-point source program staff and committees

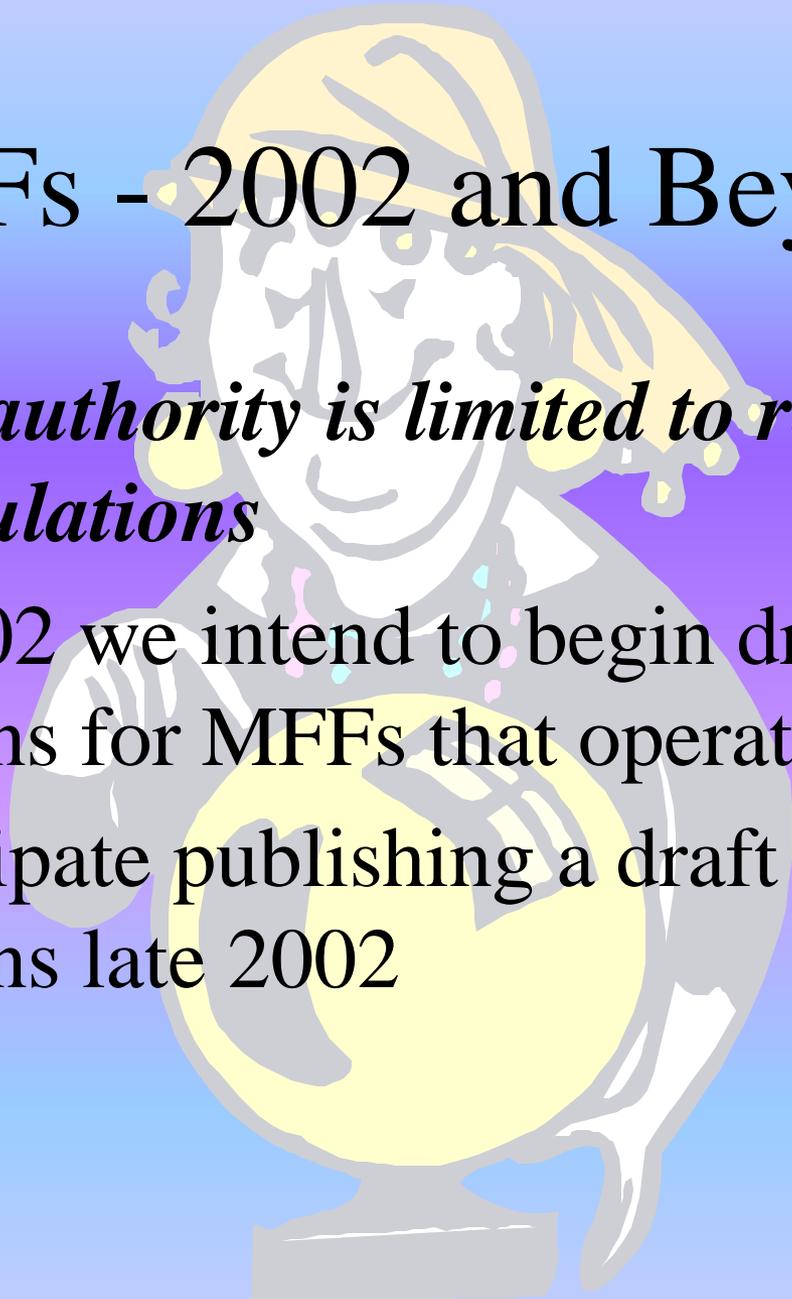


MFFs - 2002 and Beyond

- Evaluate MFF inspection data to summarize variety of system construction and leak detection methods
- Identify fueling system design flaws and inadequacies
- Evaluate extent to which implementation of new requirements is necessary and the impact on existing MFFs

MFFs - 2002 and Beyond

- *Current authority is limited to revision of UST regulations*
- Early 2002 we intend to begin drafting regulations for MFFs that operate USTs
- We anticipate publishing a draft of these regulations late 2002



MFFs - 2002 and Beyond

- Our goal is to develop a comprehensive MFF regulatory program that will allow consistent implementation of protective standards, regardless of AGT or UST system
- Evaluate how to effectively and consistently implement protective standards at MFFs with AGTs
- Continue to periodically update public on MFF activities