Characteristics of FRP Facilities: Results of Nationwide Inventory

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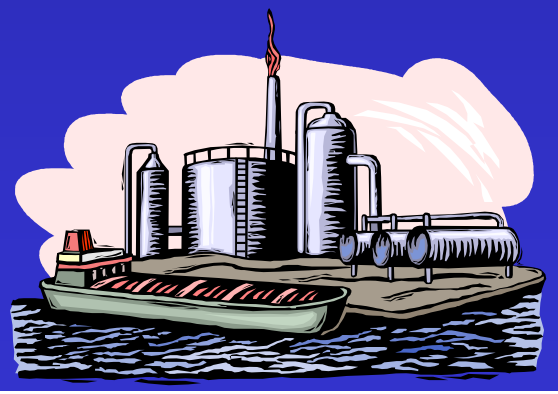
Outline

- Facility Response Plan Rule Requirements
- National FRP Facility Database
- FRP Facilities Characteristics
- Oil Discharges from FRP Facilities
- Conclusion

FRP Rule

- Oil Pollution Act of 1990 (through amendments to the Clean Water Act)
- FRP Regulations: 40 CFR part 112.20 and part 112.21
- Effective since 1994
- Applies to facilities that could, because of their location, cause substantial harm to the environment by discharging oil



Harm Factors

Include, but are not limited to:

- Capacity-related
  - Total oil storage capacity (1 million gal. or 42,000 gal.)
  - Type of transfer activities (e.g., transfer over water)
- Facility-specific or Location-related
  - Adequacy of secondary containment
  - Proximity to environmentally sensitive areas
  - Proximity to drinking water intakes
  - Reported discharge of 10,000 gal. or more in last 5 yrs.

Plan Components

- Evaluate potential for harm
- Identify a Qualified Individual responsible for coordinating and directing response actions
- Outline strategy for responding to a discharge from the facility
- Provide adequate resources to respond to a small, medium, and worst-case discharges, as applicable
- Train employees, including a program of response drills and exercises

Part 1. Facility Response Plan Rule Requirements

FRP Planning and Review Process

- Owner/operator determines FRP applicability
  - 42,000 gallons of oil AND transfers over water OR
  - 1 million gallons of oil AND
    - Inadequate secondary containment OR
    - Reportable oil discharge of 10,000 gallons or more in last five years OR
    - Oil discharge could shut down public dinking water intake OR
    - Oil discharge could cause injury to fish and wildlife or to sensitive environments
- If criteria is met, Owner/operator prepares and submits Plan to EPA RA

Part 1. Facility Response Plan Rule Requirements

FRP Planning and Review Process

- EPA Region reviews plan initially to determine if all required elements included. Plus, reviews to determine if sig. and sub. (usually if more than 2 harm factors are met) and, if required, approves the Plan
  - Facilities that have the potential to cause significant and substantial harm must have their Plan approved by the Regional Administrator
- Periodic Reviews:
  - 5 yr reviews
  - Recent spill at facility, need to re-evaluate plan and facility's preparedness.
  - Failed Government-Initiated Unannounced Exercise (GIUE); need to re-evaluate plan and facility's preparedness.

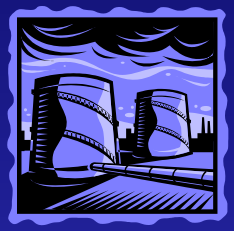
Part 2. National FRP Facility Database

FRP Planholder Universe – Update Activity

- FY06 Goal: Create National FRP Database to promote national consistency.
- Challenge: Each Region maintains data on FRP-regulated facilities within the Region
  - Typical approach is through a locally-maintained database that tracks activities (Plan reviews and approvals, inspections and drills) for each Plan holder
  - Data updated periodically to reflect new Plans received, changes in status, or Agency activities
- Initiated activity in September 2005 and completed "first draft" in November 2005.
- Current activities:
  - Regions performing QA/QC
  - Adding additional data fields, including SPCC information

Part 2. National FRP Facility Database

Data Elements



FRP Facility

- *Name*
- *Owner/operator*
- *Location*
- *Operational characteristics*
- *Etc.*

Spill Incidents

- *Date of incident*
- *Volume discharged*
- *Description*
- *Etc.*

Program Activities

- *Plan review*
- *Inspection*
- *Drills/exercises*
- *Etc.*

Facility Information Fields (Desired)

- General Characteristics
  - Name
  - Owner/operator
  - Contact information*
  - Street address*
  - Latitude and longitude*
  - Industry sector*
  - Harm category (substantial, significant & substantial)
  - Status (e.g., active, idle, closed, not applicable)
  - Start of operations*
- Oil Operations Characteristics
  - Oil storage capacity*
  - Largest tank capacity*
  - Number of tanks*
- Harm factors
  - Worst-case discharge volume*
  - Distance to water*
  - Risk factor(s) used to determine applicability and harm category*

* Not available for all records

Part 2. National FRP Facility Database

FRP Status Tracking and Oil Discharges Information Fields

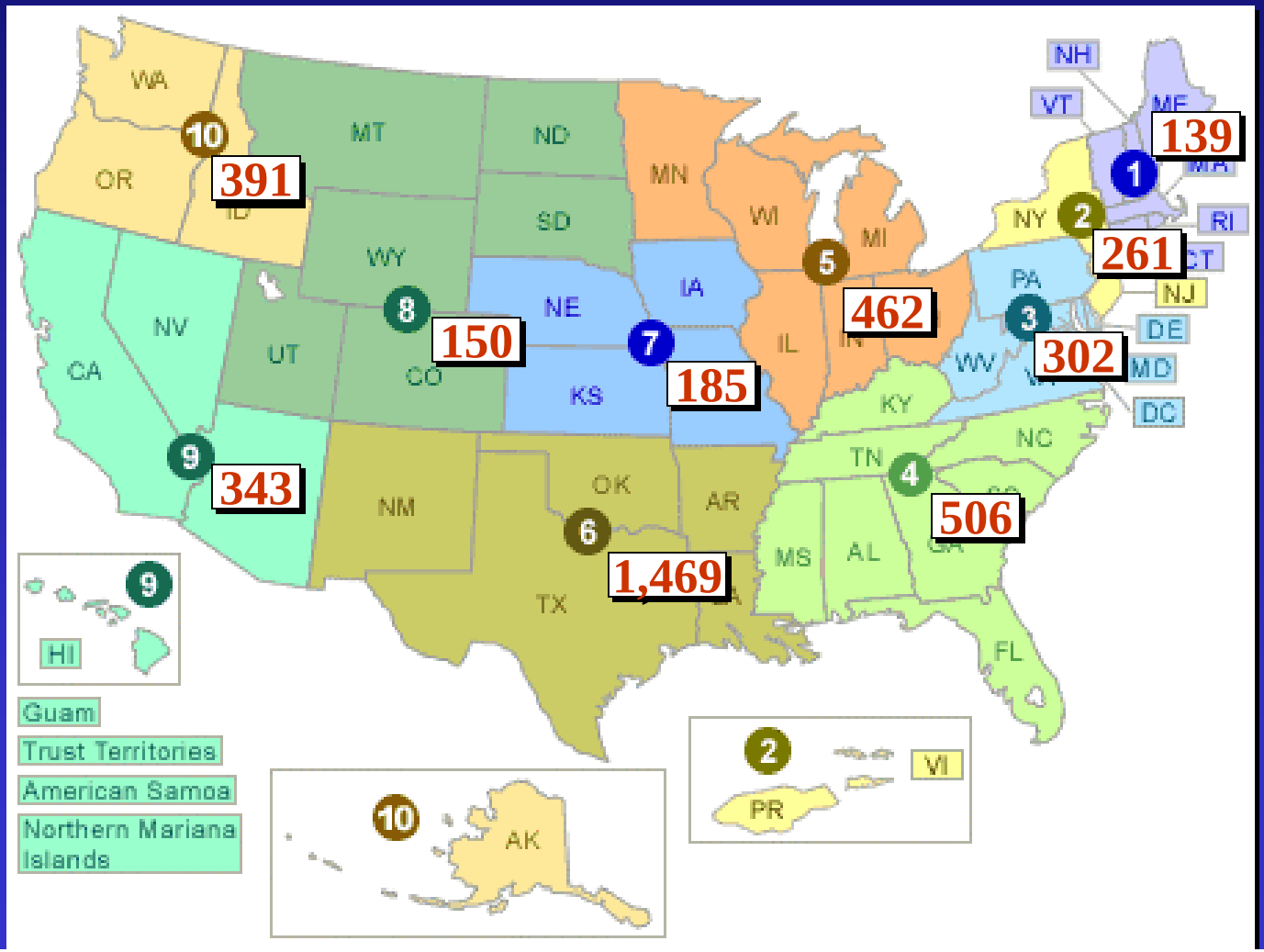
- Activities (date, activity type, inspector name, outcome)
  - Initial Plan submittal
  - Initial Plan review
  - Periodic reviews
  - Review of amendments
  - Inspections
  - Government-initiated unannounced exercises (GIUEs)
- Discharge history
  - Oil discharges reported between 2001 and 2005, as compiled by
    - National Response Center
    - Environmental Research Consulting (under contract to EPA)
  - Attributed to FRP facility by comparing facility name and/or address

Part 3. FRP Facilities Characteristics

National Universe of FRP Facilities

- 5,239 Plans received by EPA to date
  - **4,208** facilities are currently active
  - 1,031 facilities have been closed, have submitted new Plans because of a change in ownership, or have been determined not subject to FRP requirements

Number of FRP Facilities by EPA Region



Number of FRP Facilities by State

- States with largest number of active FRP facilities
  - Louisiana (Region 6) 659
  - Texas (Region 6) 619
  - Alaska (Region 10) 295
  - California (Region 9) 257
  - New York (Region 2) 141

Part 3. FRP Facilities Characteristics

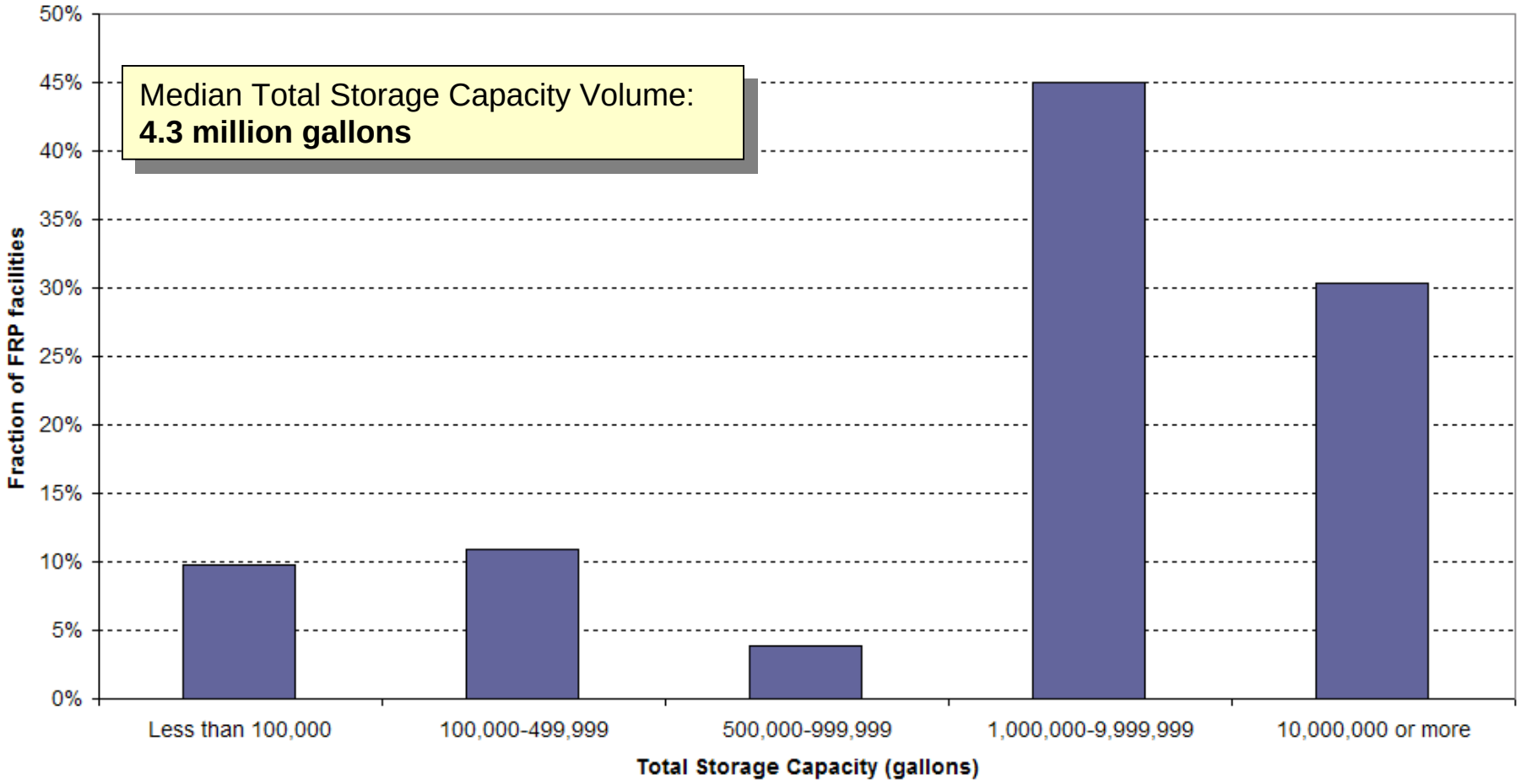
FRP Facilities by Industry Sector

By Number of Active Facilities		By Total Storage Capacity**	
Oil and Gas Extraction	15.6%	Petroleum and Coal Products Manufacturing	46.4%
Electric Power Generation, Transmission and Distribution	14.5%	Iron and Steel Mills and Ferroalloy Manufacturing	12.1%
Petroleum and Petroleum Products Merchant Wholesalers	14.3%	Electric Power Generation, Transmission and Distribution	9.7%
Petroleum and Coal Products Manufacturing	13.9%	Petroleum and Petroleum Products Merchant Wholesalers	7.3%
Petroleum and Petroleum Products Wholesalers	6.9%	Petroleum and Petroleum Products Wholesalers	5.9%
Warehousing and Storage	6.5%	Warehousing and Storage	5.5%
Direct Selling Establishments	5.5%	Direct Selling Establishments	4.0%
National Security and International Affairs	5.0%	Pipeline Transportation of Crude Oil	3.1%
Pipeline Transportation of Crude Oil	3.9%	Other Pipeline Transportation	1.7%
Basic Chemical Manufacturing	3.4%	National Security and International Affairs	1.2%
Rail Transportation	1.8%	Grain and Oilseed Milling	1.0%
Pulp, Paper, and Paperboard Mills	1.2%	Basic Chemical Manufacturing	0.5%
Basic Chemical Manufacturing	3.4%	National Security and International Affairs	1.2%

**Based on 2,919 facilities. Sector data provided by EPA Regions or attributed from corresponding Dun & Bradstreet records.*
*** Storage capacity is available for only a subset of facilities. Storage capacity is not available for most Oil & Gas Extraction facilities and statistics presented above therefore their overall share.*

Part 3. FRP Facilities Characteristics

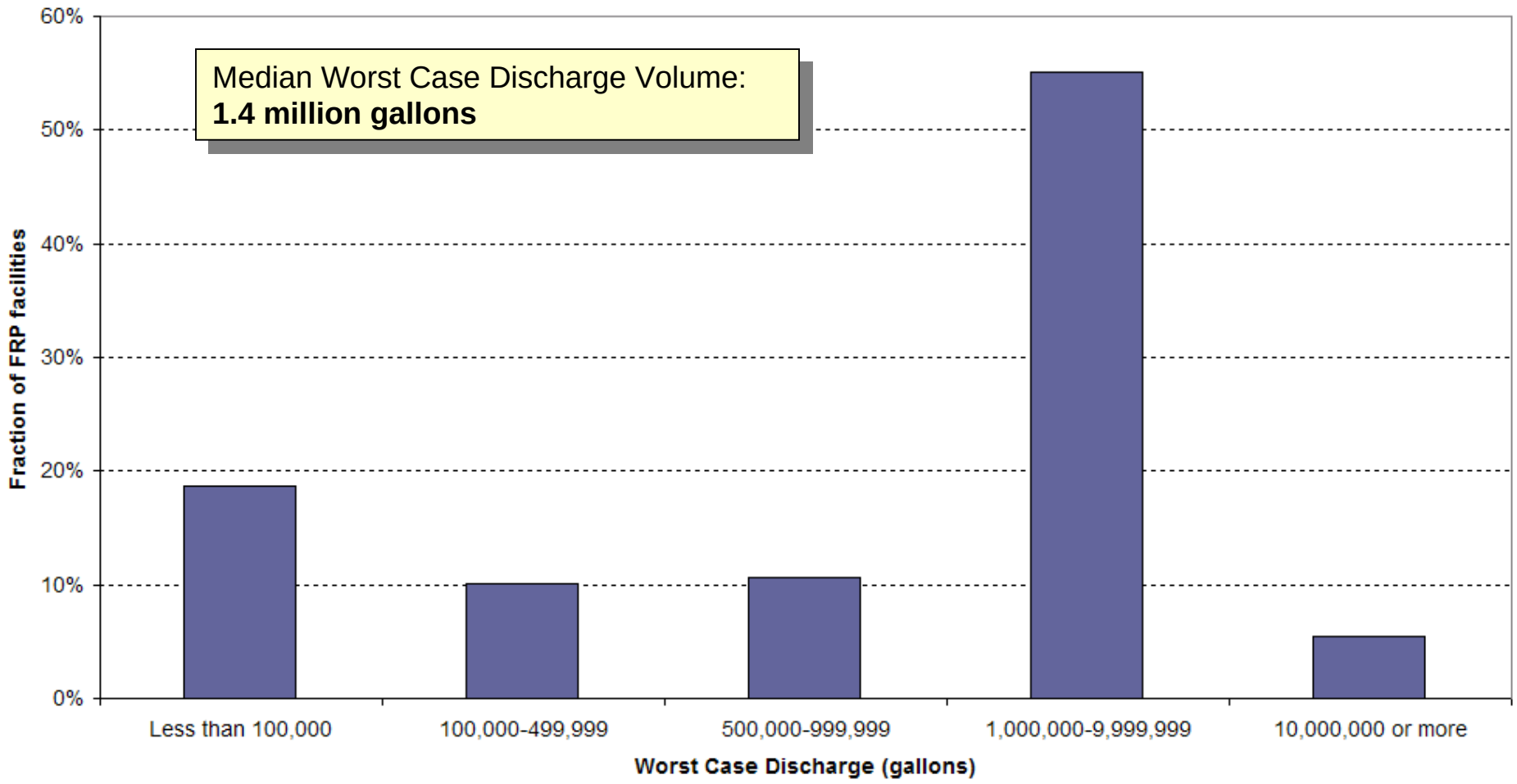
Total Storage Capacity Profiles



*Based on subset of 1,090 active facilities for which total storage capacity information is currently available.

Part 3. FRP Facilities Characteristics

Worst Case Discharge Profiles



*Based on subset of 1,257 active facilities for which worst case discharge information is currently available.

Methodology for matching Spill History with Facilities

- Reviewed National Response Center reports of oil discharge incidents to identify incidents that occurred at FRP facilities
- Period of 2001 through 2005
- For 2005, used other sources to provide more accurate volume estimates for incidents caused by hurricanes Katrina and Rita
- Facilities match to relevant spill incidents based on name, owner/operator and address information

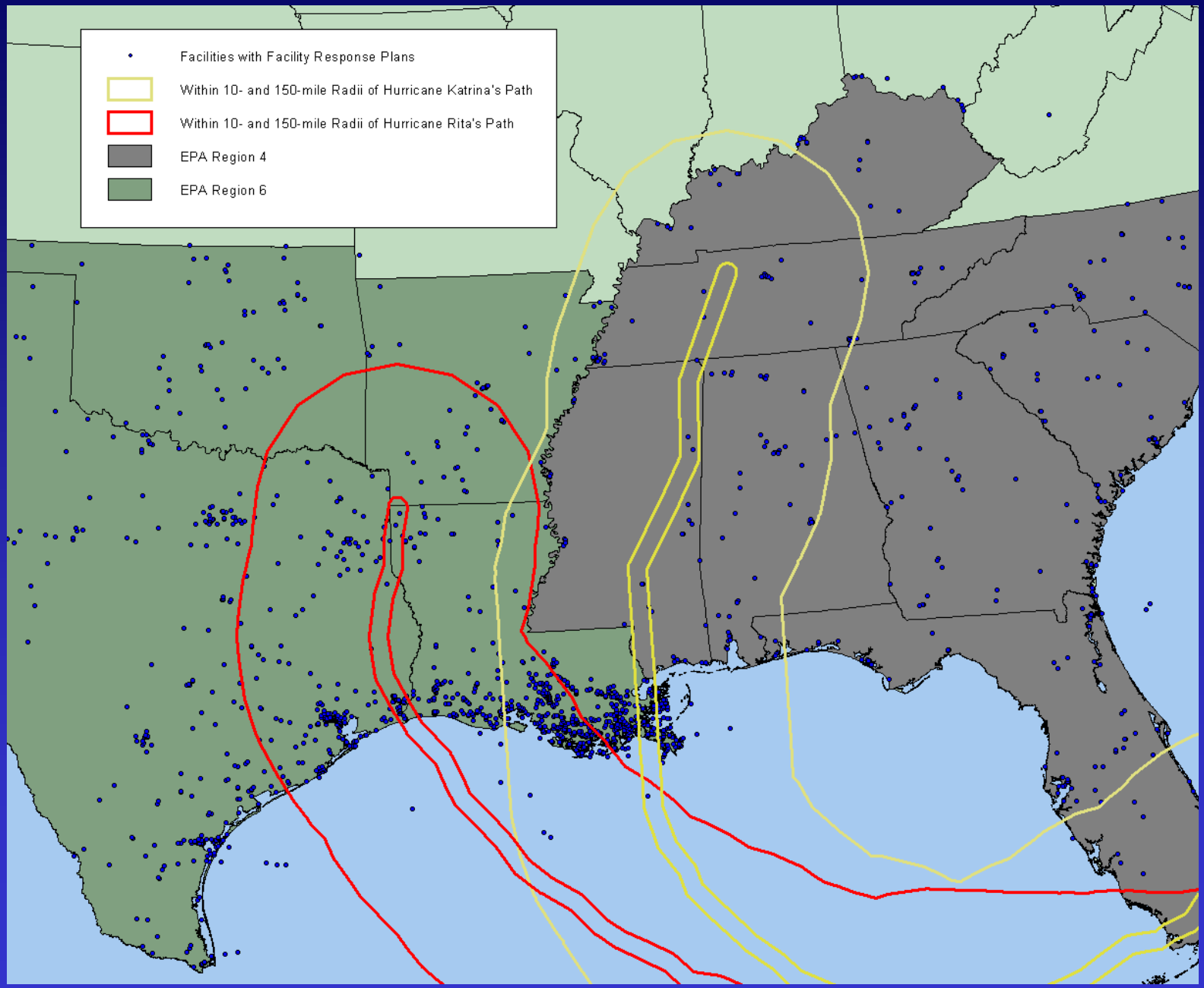
Part 4. Oil Discharges from FRP Facilities

Spills Attributable to FRP-regulated Facilities

Year	Number of incidents	Average volume discharged (gallons)	Maximum volume discharged (gallons)	Total volume discharged (gallons)
2001	438	1,915	180,138	838,652
2002	417	1,720	250,000	717,346
2003	397	2,692	532,980	1,068,772
2004	381	3,475	478,800	1,323,873
*2005 (w/o hurricanes)**	*486*	*1,569*	*210,000*	*462,979*
2005	506	21,229	3,780,000	6,559,746

* Does not include incidents for which NRC identified “hurricane” as the cause, or for which the incident description suggests a hurricane as a contributing factor.

Path of Hurricanes Katrina and Rita relative to FRP facilities



Part 5. Conclusion

Limitations

- Limitations
  - Year-to-year oil discharge statistics easily affected by large incidents. Trend analyses only possible over longer periods
  - Detailed review is ongoing to determine current status of certain facilities.
  - Some of the analyses are based on data available for only certain facilities (e.g., storage capacity, industry sector)
- Future Improvements
  - Need to maintain and update data as more information becomes available
  - Additional/better sources of spill incident data
    - NRC data is not always accurate (e.g., spilled volume)
    - Other proprietary sources available, but with time lag
    - Matching to physical location of a facility not always possible
  - More detailed facility characteristics (total oil storage capacity, type(s) of oil, etc.)
  - Better facility location information (latitude/longitude, detailed physical address)

Part 5. Conclusion

Potential Uses and Outcomes of National FRP Facility Database

- Improved Regional preparedness
  - Information on FRP facilities readily available to Regional personnel and other responders
  - Better Identification of sensitive areas potentially at risk
  - Improved knowledge of distribution of Oil Spill Removal Organizations (OSRO) relative to FRP-regulated facilities and response capabilities
- Improved Program performance tracking
  - Known and relatively stable group of regulated facilities
  - Required tracking now as outgrowth of OMB-lead PART effort
- Targeted outreach and compliance assistance
  - Specific industry sectors
  - Specific geographic areas
  - Specific operational and storage characteristics