Plan Requirements under EPA's Facility Response Plan (FRP) Regulation



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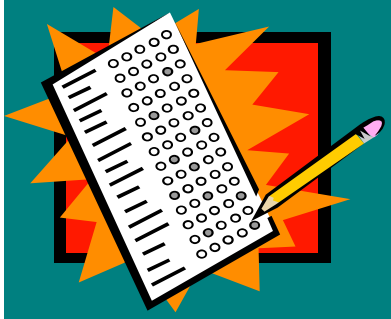
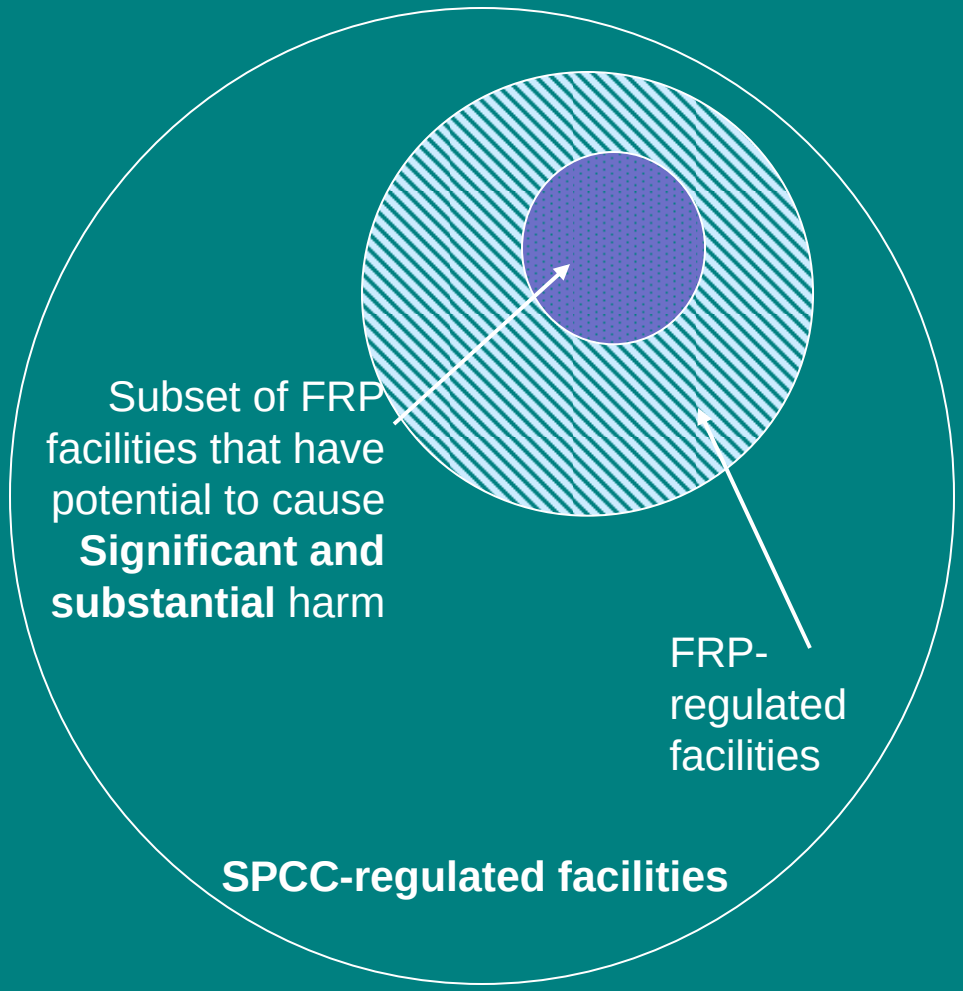


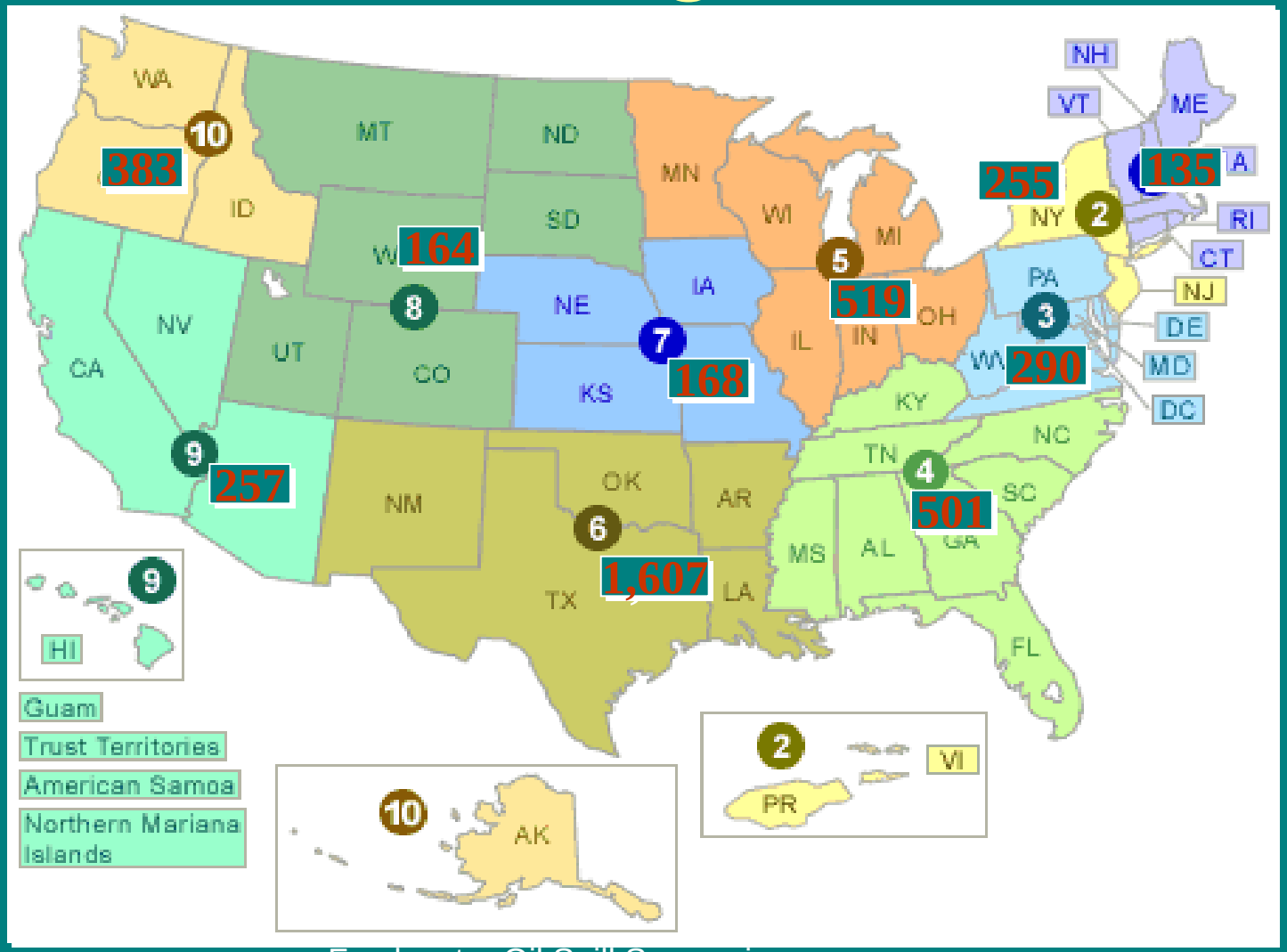
Presentation Overview

- At the end of this presentation, you will have a better understanding of:
  - Concept and Purpose of FRP Plan Regulation
  - FRP requirements under *§112.20 and Appendix F*
  - Relationship of the FRP to National Contingency Plan (NCP), Area Contingency Plan (ACP) and other preparedness activities conducted by industry, USEPA, and USCG
  - Steps in planning and implementing an FRP, including PREP requirements
  - Common problems observed and recommendations for improvement of plans

Relationship between FRP and SPCC-regulated Facilities



Number of FRP Facilities by EPA Region



FRP Rule

- 40 CFR part 112.20 and 112.21
- FRP-specific Appendices
  - C – Substantial Harm Criteria
    - Applicability criteria flowchart (Attachment C-I)
    - Template for Certification Form (Attachment C-II)
    - Procedures for calculation of planning distance, including oil transport on moving water, still water or tidal waters, plus overland transport
  - D – Worst Case Discharge Planning Volume
    - Onshore storage or production facilities with single or multiple tanks
  - E – Required Response Resources for FRPs
    - Consideration given for oil group (petroleum, animal fats and vegetable oils, etc.) and operating environment (rivers and canals, inland, Great Lakes, Ocean)
  - F – Model Facility Specific Response Plan

FRP Submission Requirements

Facility Type *IF…*	**Existing facility** (in operation on or before August 30, 1994)	(commences operation after August 30 1994)	Becomes subject to requirements as a result of **planned** change in design, construction or maintenance	Becomes subject to requirements as a result of **unplanned** event or change in facility characteristics	Becomes subject to requirements as a result of **EPA RA** determination per 112.20(f)(2)
…THEN:					
Deadline for submitting FRP and Cover Sheet to RA	Should have already submitted a Plan	Prior to the start of operations, plus 60-day trial period	**Before** the portion of the facility undergoing changes commences operations plus 60-day trial period	Within **6 months** of the unplanned event or change	Within **6 months** of receiving written notification from the EPA RA
Rule Citation	112.20(a)(1)	112.20(a)(2)(ii)	112.20(a)(2)(iii)	112.20(a)(2)(iv)	112.20(b)(1)

FRP Submission Requirements-AFVO

Facility Type *IF…*	**Existing facility** with approved plan by July 31, 2000			Becomes subject to requirements as a result of **unplanned** event or change in facility characteristics	
…THEN:					
Deadline for submitting FRP and Cover Sheet to RA	No further action unless changes made to facility or per RA				Within **6 months** of receiving written notification from the EPA RA
Rule Citation	112.20(a)(4)(i)	112.20(a)(4)(ii)	112.20(a)(4)(iii)	112.20(a)(4)(iii)	112.20(b)(1)

FRP Content Requirements

Model Facility-Specific Response Plan (40 CFR Part 112, Appendix F)

1.1	Emergency Response Action Plan (ERAP)
1.2	Facility Information
1.3	Emergency Response Information
1.4	Hazard Evaluation, Vulnerability Analysis, and Spill History
1.5	Discharge Scenarios
1.6	Discharge Detection Systems
1.7	Plan Implementation
1.8	Self-inspection, Drills/exercises and Response Training
1.9	Facility Diagrams
1.10	Security
2.0	Response Plan Cover Sheet
3.0	Acronyms
4.0	References

ERAP

- Identify QI's and phone number
  - Full authority to implement the plan
  - Contracting authority
  - Representative of the facility to agencies and media
- Description of facility response personnel
- Plan evacuation
- Immediate measures to secure source of the discharge
- Required to have one and located in the front of the FRP or a separate document accompanying the FRP Stand Alone Document §112.20(h)(1):
- Identifies the organization or individuals and contact information
- Spill Notification report form
- Description of facility response equipment and location
  - Planning and strategy implementation
  - Logistical information
    - used by resources and logistics to track items
    - Operations can determine the priorities of the response tactics

ERAP Cont.

- Provide adequate containment and drainage of spill oil
  - Diversionary system
  - Oil/water separators
  - Circulating system
  - Recovery opportunities
  - Redirection of the oil
- Diagram of the facility
  - Point of reference for responders
  - Identify all hazardous on site
  - Equipment/personnel ingress/egress
  - Identify location of spill and flow direction

ERAP Cont.

- ERAP provides:
  - QI basic information necessary for initial response
  - Allows the strategic priorities to be evaluated quickly
  - Provides the initial 201 documents (starts the initial planning “P”)
  - Allows response personnel to perform initial assessment
  - Additional critical resource can identified and ordered
  - Appropriate notification can be completed and updated as necessary
  - Successful response will depend on the initial strategy being implemented immediately and correctly

Common Problem: Updated Contacts Not Onsite

- Appendix F, Sec 1.3: The information provided in the Emergency Notification Phone List in section
- 1.3.1: identifies and prioritizes the names and phone numbers of the organizations and personnel that need to be notified immediately in the event of an emergency…
- These numbers must be verified each time the plan is updated. The contact list must be accessible to all facility employees

Emergency Response Information

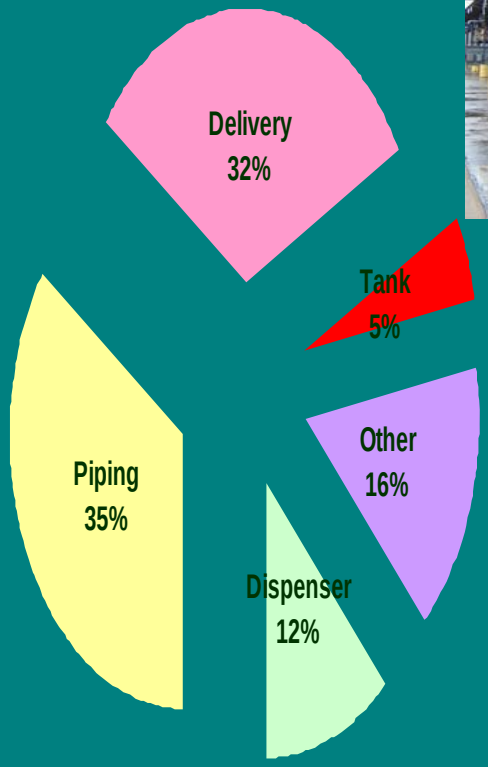
- List Qualifies Individuals (QI's)
- Provide description of facility's:
  - List of emergency equipment
    - location
    - capabilities
    - launching sites

- Facility owned facility:
  - Equipment testing and deployment exercises to ensure
    - operational
    - personnel capability with the equipment
    - semiannually equipment deployment
    - follow PREP
- OSRO Dependent:
  - Provide annual equipment deployment exercises by OSRO
  - Verify OSRO is meeting the PREP requirements

MODEL FACILITY-SPECIFIC RESPONSE PLAN

SECTION 1.4: HAZARD EVALUATION

HAZARD IDENTIFICATION:



Evacuation Plan- factors to consider:

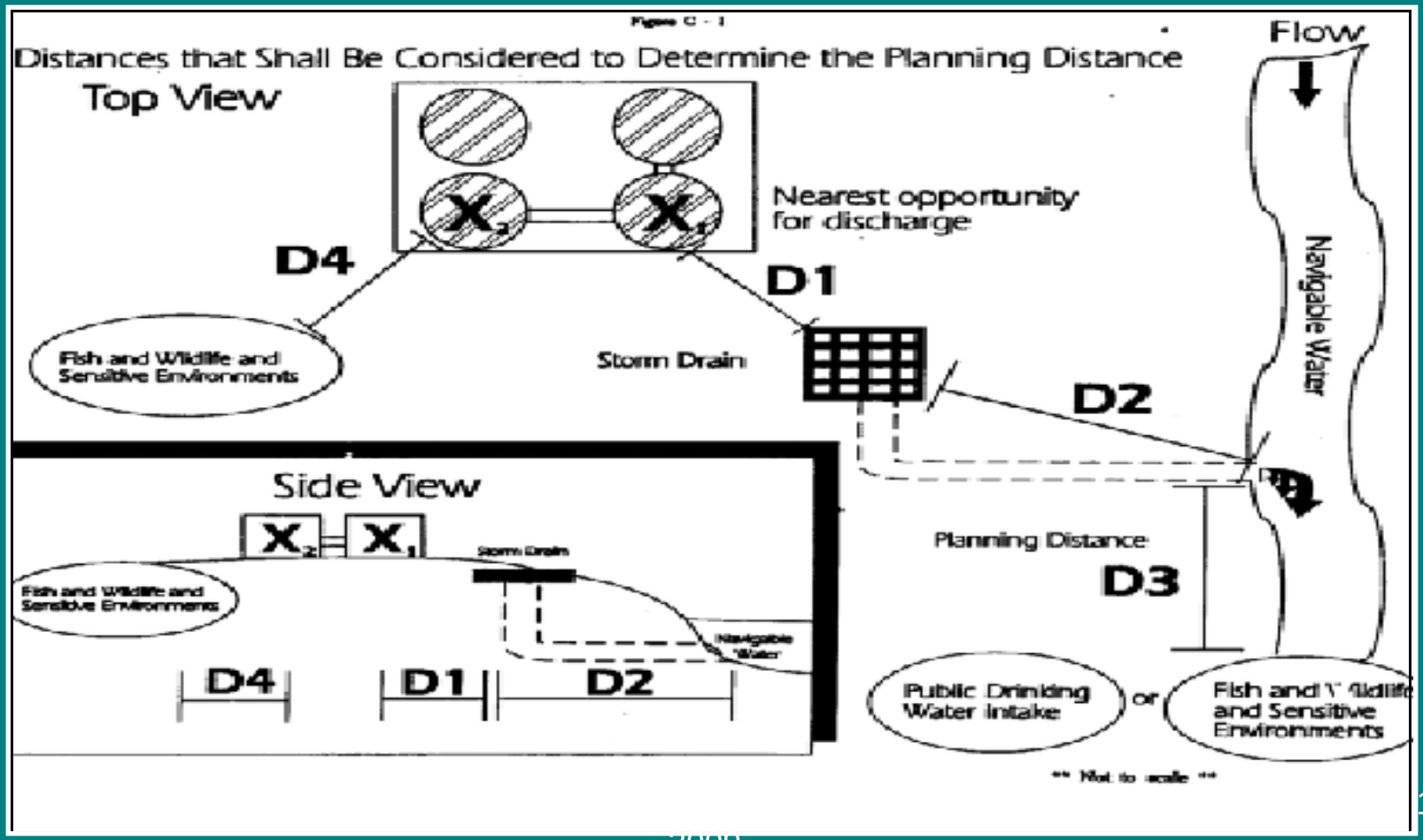
- Weather
- Current, tide, wave conditions
- Location of spill or fire
- Spill flow direction Hazard imposed by spill material,
- Alarm notification system, location
- Location of personnel
- Impacts to neighboring residences or industry
- Useable routes
- Safety issues
- Emergency response ingress/egress
- Transportation route of injured personnel
- Alternative command post location

MODEL FACILITY-SPECIFIC RESPONSE PLAN

SECTION 1.4: HAZARD EVALUATION

1.4.2 VULNERABILITY ANALYSIS:

Planning Distance Calculation, according to Attachment C-III to Appendix C.



MODEL FACILITY-SPECIFIC RESPONSE PLAN

SECTION 1.4: HAZARD EVALUATION

1.4.3 ANALYSIS OF THE POTENTIAL FOR AN OIL SPILL:

1. General Facility Oil Spill History
2. Horizontal Range of a Potential Oil Spill
3. Vulnerability of Facility to Natural Disaster
4. Tank Age

1.4.4 FACILITY REPORTABLE OIL SPILL HISTORY

MODEL FACILITY-SPECIFIC RESPONSE PLAN

- SECTION 1.5: DISCHARGE SCENARIOS
- SMALL AND MEDIUM DISCHARGES
  - Small Discharge = Up to 2,100 gal.
  - Medium Discharge = 2,100 - 36,000 gal.

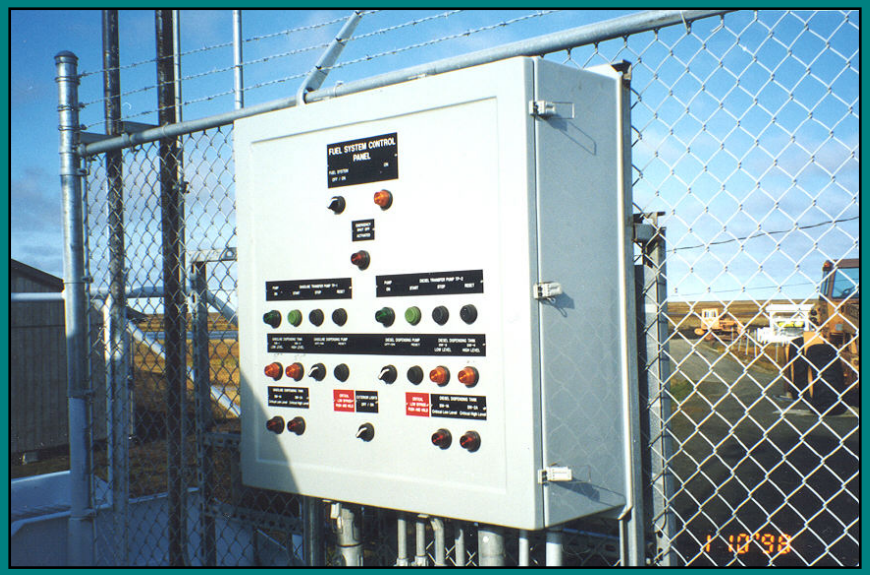
- WORST CASE DISCHARGE SCENARIO

1. WORST DISCHARGE VOLUME (ACCORDING TO APPENDIX D, PART A)
2. PLANNING VOLUMES OF RESPONSE RESOURCES (ATTACHMENT E-1)

MODEL FACILITY-SPECIFIC RESPONSE PLAN

SECTION 1.6: DISCHARGE DETECTION SYSTEMS

DESCRIPTION OF AUTOMATED DISCHARGE DETECTION:



DISCHARGE DETECTION PROCEDURES BY FACILITY PERSONNEL:

Plan Review

Containment and Drainage Planning:

- Proper plan to contain and control a spill through drainage to limit threat to human health and the environment– including:
  - Available volume of containment
  - Route of drainage from oil storage transfer area
  - Construction materials used in drainage trough
  - Type of valve and amount of valves
  - Separators used in drainage system
  - Sump and pump capacities
  - Containment capacity of weirs and booms to be used and locations
  - Other cleanup materials

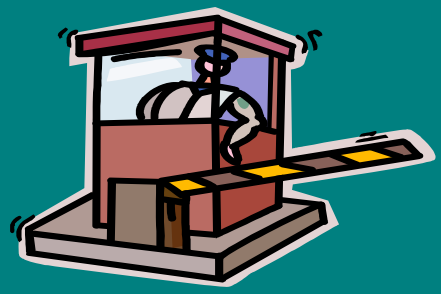
Plan Review

Disposal Plan must identify:

- Must be accordance with Resources Conservation and Recovery Act (RCRA)
- How and where disposal of spill material will be handled
- Identifying required agency permits and regulations:
  - Federal
  - State
  - Local
- Must account for:
  - recovered product
  - Contaminated soil
  - Contaminated equipment/materials
  - Drums/tank parts
  - Valves
  - Spent chemicals
  - PPE
  - Sorbents
  - Decontamination solution

- Must a copy of this disposal plan in the SPCC

SECTION 1.10: SECURITY MEASURES TO BE DESCRIBED:



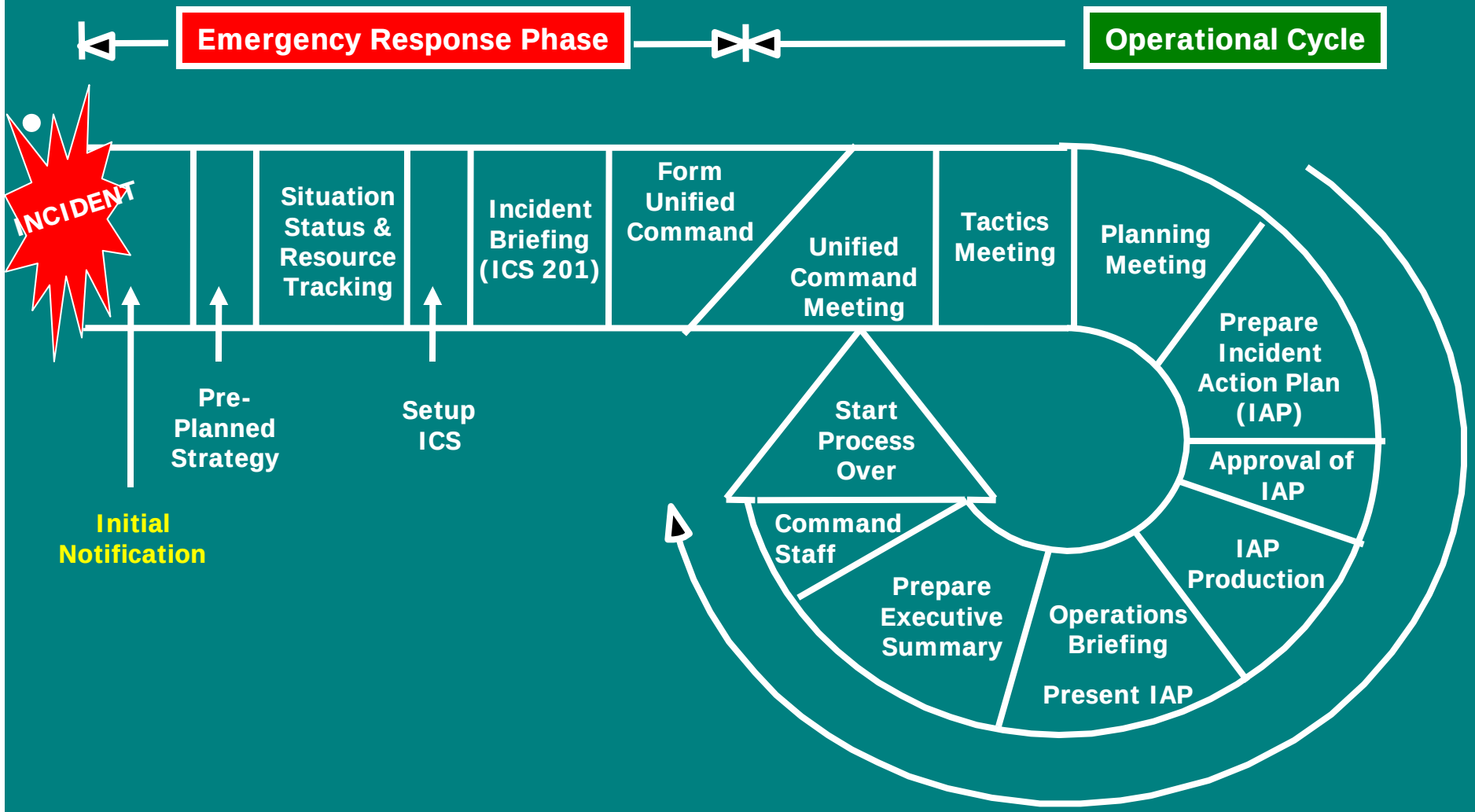
FRP Personnel Training and Exercise Requirements

- §112.21 - Requirements for personnel training and program of drills/exercises
  - Training [§112.21(b)]
    - Train personnel involved in oil spill response activities
    - Recommendation that training program be based on USCG's Training Elements for Oil Spill Response
    - Alternative program is acceptable, **subject to approval by the Regional Administrator**
  - Facility Response Drills/Exercises [§112.21(c)]
    - Develop a program of drills/exercises, including evaluation procedures
    - Program that follows National Preparedness for Response Exercise Program (PREP) will satisfy the requirement
    - Alternative program is acceptable, **subject to approval by the RA**

What EPA Expects During an Oil Spill

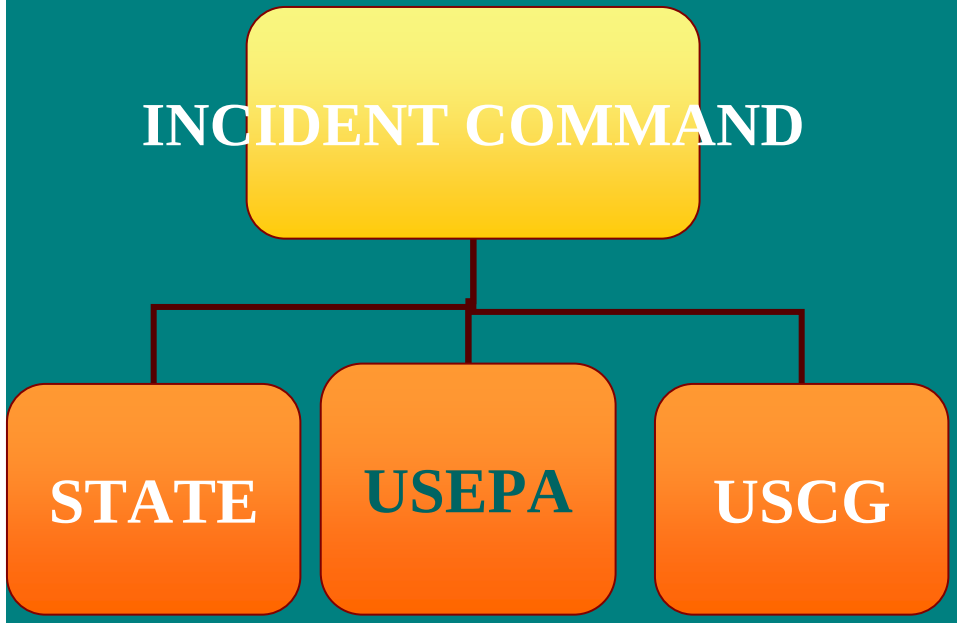
- Follow ERAP and FRP
- Notifications made in a timely manner
- Rapid Response by OSRO & Facility team
- Quick deployment of:
  - Response Resource Equipment
  - Response Personnel
- Well versed in incident management terminology and roles

THE PLANNING CYCLE



Interagency Cooperation During Spills

- State is the Lead
- State requests federal assistance



Federal agencies will take the lead when:

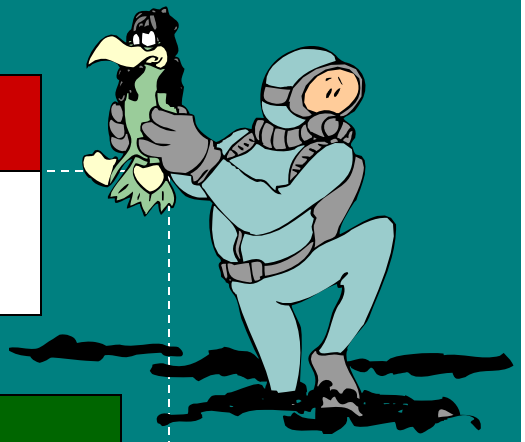
- Size will pose substantial harm to public health or welfare
- The responsible party is incapable of responding adequately to a spill
- Based on response jurisdiction

Spill Contingency Planning Framework

National

Regional

Local / Facility



National Contingency Plan

National Response Team
16 Federal Agencies

Area Contingency Plans

Regional Response Team
Federal agencies, State and Local government

Area 1 | Area 2 | Area … | Sub-Areas

Facility Response Plans

Facility owner/operator
Spill response contractors

Facility 1 | Facility 2 | Facility …

Consistency with NCP and ACPs

- FRP must be consistent with ACP (and NCP)

  "All facility response plans shall be consistent with the requirements of the National Oil and Hazardous Substance Pollution Contingency Plan (40 CFR part 300) and applicable Area Contingency Plans prepared pursuant to section 311(j)(4) of the Clean Water Act […]" *[112.20(g)(1)]*

  The owner or operator shall review relevant portions of the [NCP] and applicable [ACP] **annually** and, if necessary, revise the facility response plan to ensure consistency with these plans […]" *[112.20(g)(2)]*

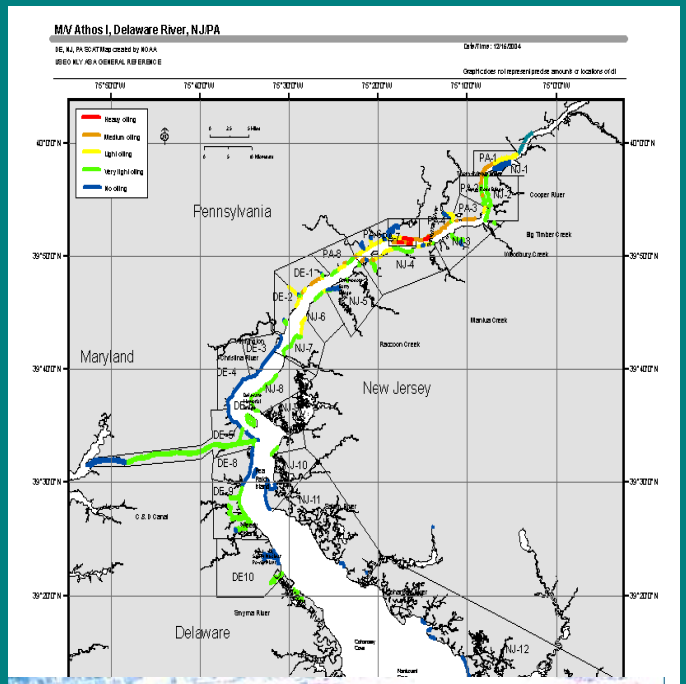
- Key consistency elements:
  - Approval for use of chemical agents (dispersants)
  - Resources at risk and priority areas for protection
  - Notification requirements and contacts
  - Role and responsibilities of responders
  - Overall response strategy
  - Disposal plan

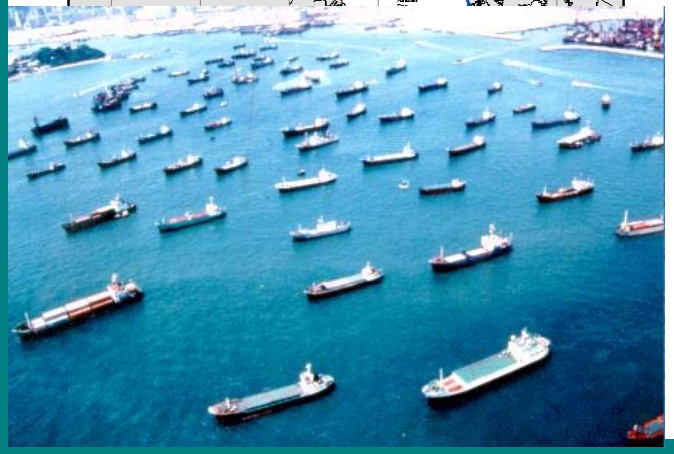
  NOAA Fish and Wildlife and Sensitive Environment Guidance

Consistency cont.

- Oil Pollution Act 1990
  - Testing response and removal capability
  - Equipment inspection and testing
- National Preparedness for Response Exercise Program (NPREP)
  - EPA & USCG agency requirements
  - Regulated community requirements
- National Response Framework
  - NIMS
    - ICS
    - IMT
- National Approach to Response

Managing & Coordinated Response





Human Health
- No Public Injuries
- No Worker Injuries

Natural Environment
- Source of Discharge
- Source Contained
- Sensitive Areas Protected
- Resource Damage Minimized

Economy
- Economic Impacts Minimized

Delivering "Best Response"

- **Public Communication**
  - Positive Media Coverage
  - Positive Public Perception
- **Stakeholders Support**
  - Minimize Stakeholder Impact
  - Stakeholders Well Informed
  - Positive Meetings
  - Prompt Handling of Claims
- **Organization**
  - Standard Response Mgmt. System
  - Sufficient / Efficient Resources

Coordination with USCG

- Planning
  - Outreach to FRP facilities
  - Selection of target facility
    - Limited to 10% of FRP facilities per Region per year
  - Plan Review
  - Scenario development
  - Coordination with other observers/evaluators, and with USCG if complex facility regulated by EPA and USCG
- USCG FRP Rule (33 CFR 154)
  - Applies to deepwater ports and marine transportation-related on-shore facilities that are capable of transferring to/from vessel with 10,500 gallons or more of oil storage capacity
- Exercise program
  - Following PREP guidelines
  - All response component exercised at least once every 3 years
- Joint GIUE at complex facilities
  - Criteria for performance evaluation

USCG vs EPA

- **USCG-**
  - performance based on the guideline and intent-more flexibility
  - focus in on a smaller portion of activities at the facility than EPA's focus
- **EPA-**
  - Appendix E, incorporates the guidelines in it's regulation- less flexibility
  - Inland activities not vessel focused

- **Response Jurisdiction:**
  - MOU between USCG and EPA
    - Determines the FOSC during emergency response
    - PREP authority during a GIUE
    - Can have more than one Federal agency on scene or in the UC structure

Operability and Readiness

- Must be designed to operate in conditions expected in the operational environment and facility's geographic area
- Conditions vary widely based on location and seasons
- Difficult to identify a single stockpile of response equipment to function effectively in each geographic location

- Facility handling, storing, transporting oil in more than one operating area
  - Identify equipment capable of successfully functioning in each operating environment
- Identify equipment for response in plan
- Consider inherent limitations of the operability of equipment components and response systems

Planning: Demonstration of appropriate required response resources

- Used to evaluate operability in given environments
- Criteria reflects the general conditions on certain operating environments
- RA may require documentation on boom to ensure the criteria are being met in table 1
  - Missing documentation RA may require testing of boom to demonstrate
    - Test in accordance to ASTM 715, ASTM F989 or other test approved by EPA

List of criteria for oil recovery devices and booms:

- All other equipment necessary to sustain or support response operation
  - Must be designed to function in same conditions
  - Be consist with ACP/NCP/ NOAA Fish and Wildlife and Sensitive Environment Guidance
  - Evaluate operability to determine significance weather factors
    - Ice and Debris
    - Weather related visibility
    - Average temperature range
    - All equipment must be designed to operate within those conditions or ranges

Appendix E- Response Resources

Criteria for determining response resources:

- Include:
  - The resources mobilization and response time in the planning
  - Distance of equipment storage location to deployment site- determine if resources can arrive within time frame
  - Shall include time for notification, mobilization, and travel of resources
  - Identify resources meet the medium and tier 1 of WCD requirements assuming…
    - Water speed is 5 knots
    - Land speed is 35 mph
    - UNLESS owner/operators can determine otherwise

PLAN IMPLEMENTATION

REQUIRED RESPONSE RESOURCES FOR EPA FRP FACILITIES (Appendix E to 40 CFR Part 112)

Response Resources for a Small Discharge (less than or equal to 2,100 gallons):

a. 1000 ft. of containment boom (not sorbent boom) or, if a marine transfer facility, containment boom equal to twice the length of the largest vessel regularly conducting transfers at the facility.

b. Capability of deploying boom within 1 hour of the discovery of a small discharge.

c. Oil recovery devices with an effective daily recovery capacity equal to the amount of the oil discharged in a small discharge or greater.

d. Response equipment is available at the facility within 2 hours of the detection of a small discharge.

e. Availability of temporary storage capacity equal to twice the volume of the small discharge.

PLAN IMPLEMENTATION

REQUIRED RESPONSE RESOURCES FOR EPA FRP FACILITIES (Appendix E to 40 CFR Part 112)

Response Resources for a Medium Discharge (36,000 gals./10% of WCD, whichever is less):

a. Availability of sufficient quantities of boom for containment & collection and for protection of fish, wildlife and sensitive environments.

b. Oil recovery devices with an effective daily recovery capacity equal to 50% of the total volume of the medium discharge.

c. Equipment arrival times within 6 hours (High Volume Ports & Great Lakes) and 12 hours (all other areas).

d. Availability of temporary storage capacity equal to the volume of the medium discharge.

PLAN IMPLEMENTATION

REQUIRED RESPONSE RESOURCES FOR EPA FRP FACILITIES (Appendix E to 40 CFR Part 112)

Response Resources for a Worst Case Discharge (calculated per Appendix D to 40 CFR 112):

a. Availability of sufficient quantities of boom for containment & collection and for protection of fish, wildlife and sensitive environments.

b. Identification of response resources with fire fighting capabilities.

c. Identification of an individual located at the facility to work with the fire department for Group 1 through Group 4 oil fires.

d. Identification of response resources to meet the applicable WCD Planning Volume (see Sec. 7.0 and Attachment E-1 of Appendix E) and capable of arriving at the scene of a WCD within the applicable Response Tiers (see Sec. 5.3 of Appendix E).

e. For facilities required to plan for response in shallow water, at least 20% of the on-water response equipment shall, as appropriate, be capable of operating in water of 6 feet or less.

f. Availability of temporary storage capacity equal to twice the response equipment's daily recovery capacity

PLAN IMPLEMENTATION

SECTION 1.7: ADDITIONAL RESOURCES TO BE IDENTIFIED

SECTION 7.6: PROCEDURES DISCUSSED TO DETERMINE APPROPRIATE RESPONSE RESOURCES FOR FACILITIES WITH GROUP 5 OILS:

1. SONAR , SAMPLING EQUIPMENT, OR OTHER METHODS FOR LOCATING OIL ON THE BOTTOM/SUSPENDED IN THE WATER.
2. METHODS FOR CONTAINING THE OIL THAT REMAINS FLOATING ON THE SURFACE OR TO REDUCE OIL SPREADING ON THE BOTTOM.
3. EQUIPMENT NECESSARY TO RECOVER OIL FROM THE BOTTOM AND SHORELINE.
4. EQUIPMENT NECESSARY TO ASSESS THE IMPACT OF SUCH DISCHARGE.
5. OTHER APPROPRIATE EQUIPMENT NECESSARY TO RESPOND TO A DISCHARGE INVOLVING THE TYPE OF OIL HANDLED, STORED, OR TRANSPORTED.
6. CAPABILITY OF DEPLOYING THE IDENTIFIED EQUIPMENT (ON SITE) WITHIN 24 HOURS OF DISCOVERY OF DISCHARGE.
7. FIRE FIGHTING CAPABILITIES IDENTIFIED.

PLAN IMPLEMENTATION

APPENDIX E: ADDITIONAL RESOURCES TO BE IDENTIFIED

SECTION 7.7: PROCEDURES DISCUSSED TO DETERMINE APPROPRIATE RESPONSE RESOURCES FOR FACILITIES WITH NON-PETROLEUM OILS:

1. PROCEDURES AND STRATEGIES FOR RESPONDING TO A WORST CASE DISCHARGE OF NON-PETROLEUM OILS.
2. IDENTIFY SOURCES OF EQUIPMENT AND SUPPLIES NECESSARY TO LOCATE, RECOVER, AND MITIGATE SUCH A DISCHARGE.
3. IDENTIFIED RESPONSE EQUIPMENT IS CAPABLE OF OPERATING IN THE CONDITIONS EXPECTED IN GEOGRAPHIC AREAS.

A. ICE

B. DEBRIS

C. TEMPERATURE RANGES

D. WEATHER RELATED VISIBILITY.

Required Response Resources

FOR FACILITIES WITH NON-PETROLEUM OILS:

- IDENTIFY CONTRACTED RESPONSE RESOURCES EQUIPMENT:
  - CONTAINMENT EQUIPMENT OR OTHER METHODS FOR CONTAINING OIL FLOATING ON THE SURFACE OR TO PROTECT THE SHORELINE FROM IMPACT.
  - OIL RECOVERY DEVICES APPROPRIATE FOR THE TYPE OF NON-PETROLEUM OIL CARRIED.
  - OTHER APPROPRIATE EQUIPMENT NECESSARY TO RESPOND TO A DISCHARGE INVOLVING THE TYPE OF OIL CARRIED.
- CAPABILITY OF COMMENCING AN EFFECTIVE ON-SCENE RESPONSE WITHIN THE APPLICABLE TIER RESPONSE TIME.
- FIRE FIGHTING CAPABILITIES IDENTIFIED.

Required Response Resources

- Shall identify by contract or other approved means
  - Availability of OSRO capable of responding
    - Shoreline cleanup operation involving calculated volumes
    - Emulsified oil might impact affected shoreline
    - Volume of oil calculated through application factors in tables 2 and 3
      - Assist in identifying an OSRO with sufficient resources and expertise

Fish and Wildlife and Environmentally Sensitive Areas

Identify wildlife and sensitive environments within planning distance

- NOAA Guidance on "Environmentally Sensitive Areas"
- Environmental Sensitivity Index (ESI) maps
  - Shorelines ranked based on physical and biological character and color-coded to indicate their sensitivity to oiling.
  - Location of sensitive biological resources, such as seabird colonies and marine mammal hauling grounds.
  - Sensitive human-use resources, such as water intakes, marinas, and swimming beaches.
- Identified in Area Contingency Plan *(see Regional FRP Coordinator and/o Regional Planners)*
  - Sensitive ecosystems, e.g., wetlands
  - National and state forests and parks
  - Critical habitats for threatened and endangered species
  - Wilderness and natural resource areas
  - Marine sanctuaries and estuarine reserves
  - Conservation areas and preserves
  - Wildlife areas and refuges
  - Wild and scenic rivers
  - Recreational areas
  - Historical and archeological sites and parks
  - Heritage program areas; and
  - Federal and State Lands that are national research areas

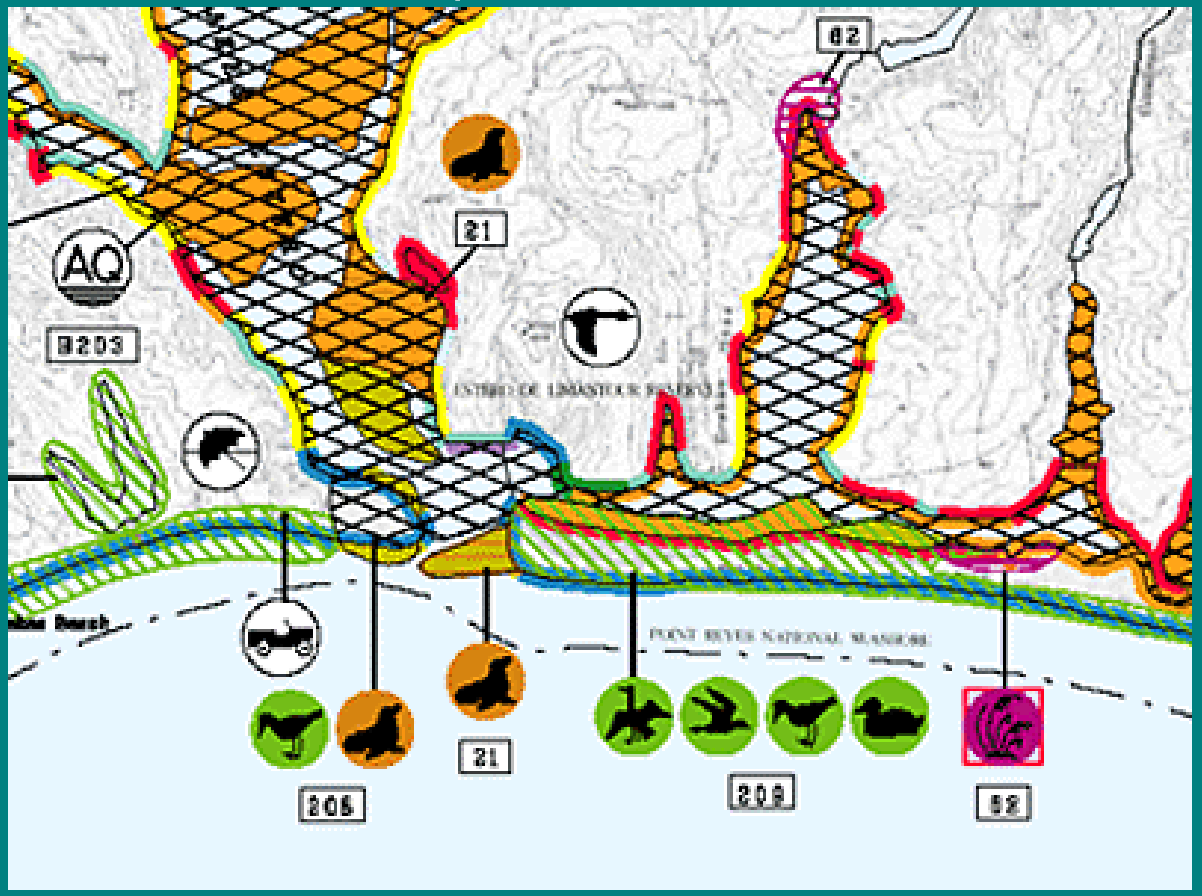
Other Areas of Concern – RA Discretion

- Agricultural / irrigation intakes
- Aquaculture areas
- Power plant cooling water intakes
- Manufacturing water intakes
- Concentrations of human populations
- Areas of special environmental or economic importance where spills might cause disruption and impose undue costs to communities

- Refer to the Area Contingency Plan and/or ESI maps for a list/map of areas of concern

ESI Maps

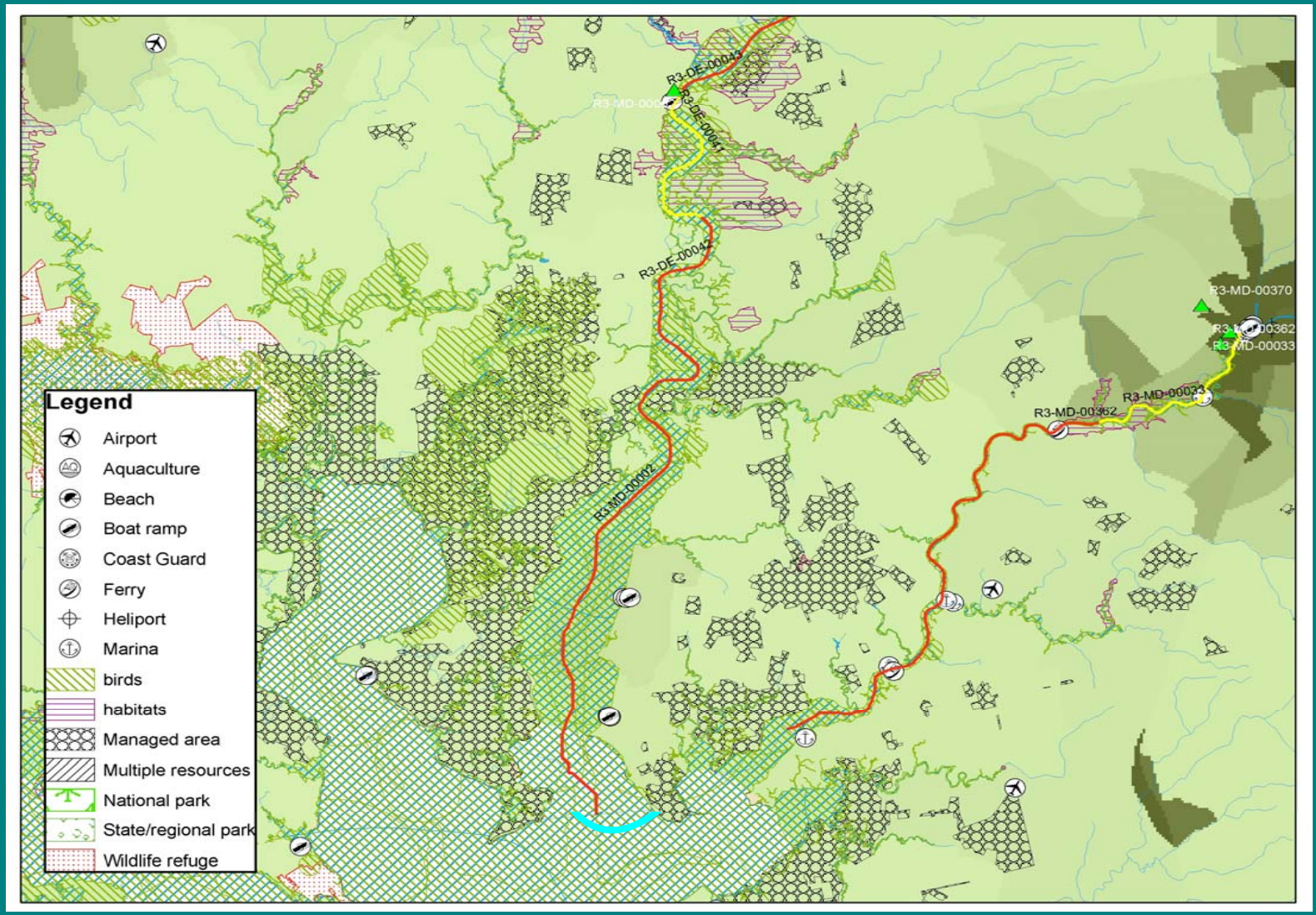
- Source: NOAA Office of Response and Restoration



Relationship of planning distance and Vulnerability Analysis

- Addresses the potential effects of an oil spill (to human health, property, or the environment)
- Using planning distance, identify the following areas within the trajectory of a discharge and discuss the vulnerability of each:
  - Water intakes
  - School and medical facilities
  - Residential areas and businesses
  - Wetlands and other sensitive environments
  - Fish and wildlife areas
  - Lakes and streams
  - Endangered flora and fauna
  - Recreational areas (e.g., public parks)
  - Transportation routes
  - Utilities
  - Other areas of economic importance

Example



Determining Effective Daily Recovery Capacity for Oil Recovery Devices

- Identify the manufacturer, model and effective daily recovery capacity
- Used capacity to determine whether there's sufficient capacity to meet applicable planning criteria to meet maximum extent practicable
  - Small
  - Medium
  - WCD

- Include formula listed in section 6.2.1
  - Consider potential limitations due to:
    - availability of daylight
    - Weather
    - Sea state
    - Percent of emulsification in recovery material
- If warranted, RA may assign a lower efficiency factor to equipment list

Determining Effective Daily Recovery Capacity for Oil Recovery Devices

- May submit adequate evidence of different effective daily recovery capacity for specific oil recovery devices
  - Actual verified performance data in spill condition OR
  - Testing using American Society of Testing and Materials (ASTM) F 681-80 and F808-83 or equivalent

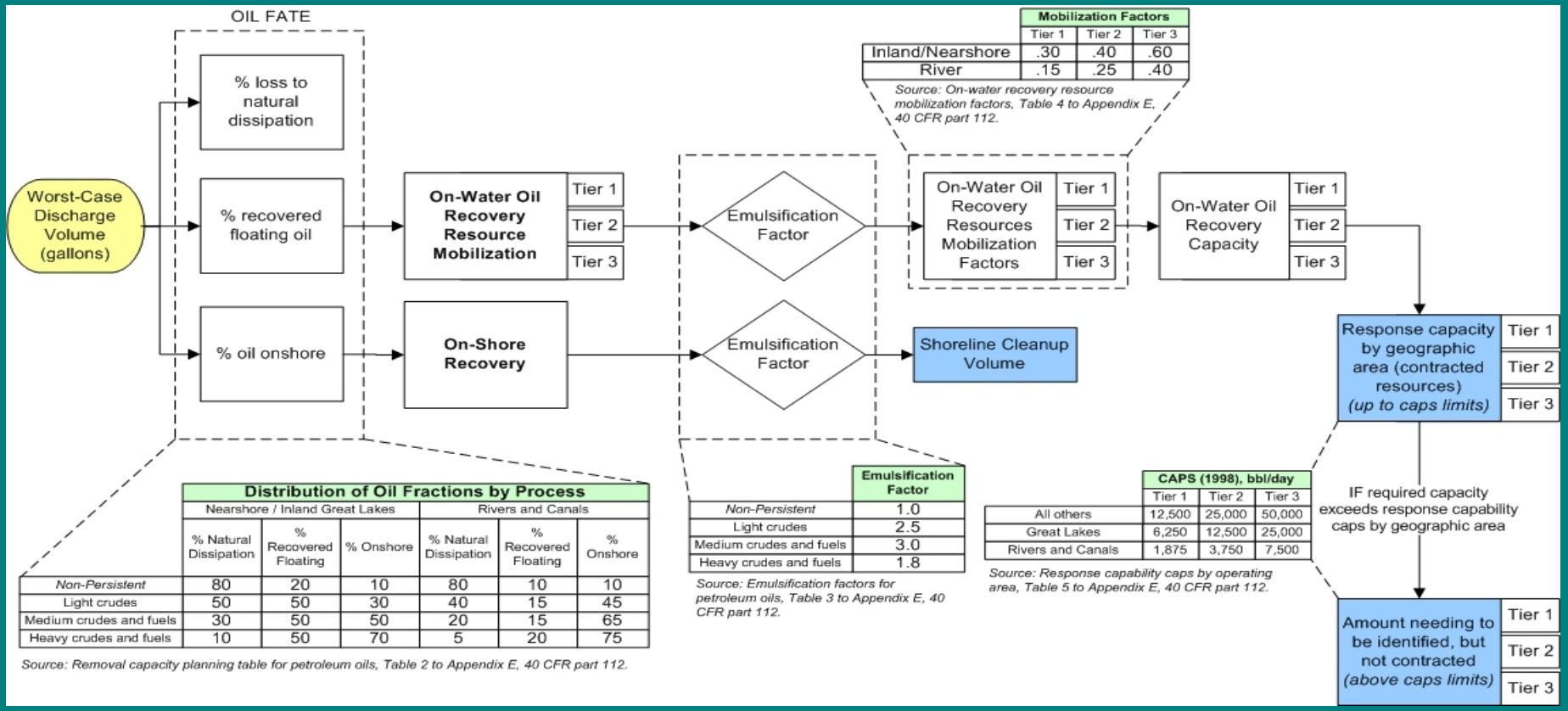
On-Work Oil Recovery Capacity:

- Determine each type of oil stored, handled and transported in the facility in the specific groups
- Each group which constitutes 10% of total capacity of the facility
  - Must be compared/evaluated separately
  - Use calculation which result in the largest on water oil recovery volume to plan for amount of response resources for WCD

Additional Equipment Necessary to Sustain Response Operation

- The additional equipment must be suitable for use with primary equipment identified in the plan
- Not required to list secondary resources- BUT shall certify their availability
- Evaluate storage capacity to sustain effective daily recovery capacities for equipment identified
- Identify daily recovery capacity equals twice the effective daily recovery capacity required on scene (temporary Storage)
  - Can be reduced if facility demonstrates waste stream analysis efficiencies of oil recovery devices ability to decent waste availability of alternative temporary storage
- Sustainability of response operation by ensuring the sufficient amounts and availability of the following:
  - Number of personnel
  - Boats
  - Aerial support
  - Containment boom
  - Sorbent materials
  - Oil recovery devices
  - Other supplies

Planning Volume for Response Resources



Mobilization Factors

	Tier 1	Tier 2	Tier 3
Inland/Nearshore	.30	.40	.60
River	.15	.25	.40

Source: On-water recovery resource mobilization factors, Table 4 to Appendix E, 40 CFR part 112.

Distribution of Oil Fractions by Process

	Nearshore / Inland Great Lakes			Rivers and Canals		
	% Natural Dissipation	% Recovered Floating	% Onshore	% Natural Dissipation	% Recovered Floating	% Onshore
Non-Persistent	80	20	10	80	10	10
Light crudes	50	50	30	40	15	45
Medium crudes and fuels	30	50	50	20	15	65
Heavy crudes and fuels	10	50	70	5	20	75

Source: Removal capacity planning table for petroleum oils, Table 2 to Appendix E, 40 CFR part 112.

	Emulsification Factor
Non-Persistent	1.0
Light crudes	2.5
Medium crudes and fuels	3.0
Heavy crudes and fuels	1.8

Source: Emulsification factors for petroleum oils, Table 3 to Appendix E, 40 CFR part 112.

CAPS (1998), bbl/day

	Tier 1	Tier 2	Tier 3
All others	12,500	25,000	50,000
Great Lakes	6,250	12,500	25,000
Rivers and Canals	1,875	3,750	7,500

Source: Response capability caps by operating area, Table 5 to Appendix E, 40 CFR part 112.

Attachment E-1 Example

Attachment E-1 Example --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part I Background Information

Step (A) Calculate Worst Case Discharge in Barrels (Appendix D) | 170,000 | (A)

Step (B) Oil Group[1] (Table 1 and section 1.5 of this appendix) . | 4

Step (C) Operating Area (choose one) . . | X | Near shore/Inland Great Lakes | | or Rivers and Canals

Step (D) Percentages of Oil (Table 2 of this appendix)

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
10	50	70
(D1)	(D2)	(D3)

Step (E1) On-Water Oil Recovery Step (D2) x Step (A) / 100 | 85,000 (E1)

Step (E2) Shoreline Recovery Step (D3) x Step (A) / 100 | 119,000 (E2)

Step (F) Emulsification Factor (Table 3 of this appendix) . . . . . | 1.4 (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor (Table 4 of this appendix)

Tier 1	Tier 2	Tier 3
0.15	0.25	0.40
(G1)	(G2)	(G3)

[1] A facility that handles, stores, or transports multiple groups of oil must do separate calculations for each oil group on site except for those oil groups that constitute 10 percent or less by volume of the total oil storage capacity at the facility. For purposes of this calculation, the volumes of all products in an oil group must be summed to determine the percentage of the facility's total oil storage capacity.

Attachment E-1 Example (continued) --
Worksheet to Plan Volume of Response Resources
for Worst Case Discharge - Petroleum Oils

Part II On-Water Oil Recovery Capacity (barrels/day)

Tier 1	Tier 2	Tier 3
17,850	29,750	47,600
Step (E1) x Step (F) x Step (G1)	Step (E1) x Step (F) x Step (G2)	Step (E1) x Step (F) x Step (G3)

Part III Shoreline Cleanup Volume (barrels) . . . . . | 166,600
Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of this appendix)
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
10,000	20,000	40,000
(J1)	(J2)	(J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (barrels/day)

Tier 1	Tier 2	Tier 3
7,850	9,750	7,600
Part II Tier 1 - Step (J1)	Part II Tier 2 - Step (J2)	Part II Tier 3 - Step (J3)

NOTE: To convert from barrels/day to gallons/day, multiply the quantities in Parts II through V by 42 gallons/barrel.

Common Problems/Recommendations for Improvement

Failure to Analyze the organization's:

Process
Storage
Manufacturing
Transfer activities
Environmental procedures
Best management
Safety procedures
Hazard communication
Industry standards
Geographic location

Plan Deficiencies:

ERAP is not in plan as a stand alone document.

Improper cross referencing.

Evacuation plan found in ERAP is not complete.

Response resource requirements section is not complete or does not exist.

Planning distances are not done properly.

Response resource planning volumes are not correct.

Hazard evaluation section does not reference to tank map.

Multiple diagrams for evacuation, drainage & site

Discharge Prevention Meeting not addressed.

Deficiencies

- **Improper Cross Referencing in Plan**

§112.20(h) and Appendix F:

  - Observations:
    - Cross-reference and pagination not updated when revisions made
    - Cross-reference points to section vs. specific pages in the plan
    - Cross-reference directs you to an empty page!
  - When cross referenced in an ICP format the document is not a stand alone document
    - Difficult to find emergency information and SOP during an incident
  - Notification forms with accurate phone numbers not found in ERAP

- **ERAP Evacuation Plan**

§112.20(h)(1)(vi) and Appendix F, Sec. 1.3.5:

  - Observations:
    - Plan doesn't have a evacuation plan; this is a problem!
    - Cross reference directs you to another document that isn't included
    - Plan does not provide a regrouping area or emergency exiting routes and/or muster points
    - Does not have the site evacuation and drainage map readily available

Problems with Hazard Evaluation

Expectations per §112.20(h)(4):

- Discuss the facility's known or reasonably identifiable history of discharges
- Identify areas within the facility where discharges could occur
- Characterize potential effects of oil discharges on human health, property, or the environment (App. F, Section 1.4.2)

- Information provided on surface impoundments is often not addressed.
  - If a facility has no surface impoundments, it should state so in its FRP.
- Lack of labeled schematic drawings missing
- Lack of secondary containment volumes
- Missing Tank design capacity
- No description of facility operations or functions
- Lack of understanding regarding the relationship between planning distance, hazard identification and vulnerability analysis

Lack of Correlation Between Vulnerability Analysis and Planning Distance

All vulnerable areas in the planning distance must have specific response strategies

- Oil flow paths
- Current/flow concerns
- Access to anchor points
- Disposal
- Booming strategy testing plan
- Procedures for evaluating and revising booming plans
- Type of boom (size, length, skirt size, angle, overlap, hard/containment or soft/sorbent)
- Type of booming (deflection boom, protection boom)
- Deployment locations
- Collection points (skimmers and skimming capacity, vacuum truck positioning and vacuum truck capacity)

Field Inspection and Drill Deficiencies

- Updated contracts are not found at the facility
- Discharge Prevention Meeting logs are not maintained
- Unannounced exercises are not done annually
- Employees are not familiar with their FRP
- Employees do not know the difference between hard boom and sorbent boom
- Boom is not deployed within 1 hour
- Boom is not anchored properly
- Access to boom deployment area is not maintained

Lack of Training & Exercises

Relevant rule text:

- §112.21(b) and (c): develop a program of facility response drills/exercises, including evaluation procedures.

A program that follows the National Preparedness for Response Exercise Program (PREP) is required

Can request approval for another equivalent program to RA

•Facility doesn't know the difference between sorbent and containment boom

- Doesn't know how to use the booms
- Can't anchor the containment boom
- Doesn't know what materials they contracted the OSRO to supply
- Doesn't have response strategies
- Doesn't know what FRP means and the PREP requirements
- Doesn't have training documentations
- Doesn't have equipment testing & deployment

Containment Boom Alternatives

- "As Appropriate"
- For example:
  - Alternative strategy may be more appropriate for inland facilities, where spill pathway could be a dry drainage pathway or tributary
  - Alternatives include:
    - **Underflow dams**
    - **Temporary containment dams (soil, etc.)**
    - **Inflatable diaphragms**

Alternative Methods

Address Alternatives:

- Open creek
- Difficult access
- Debris and vegetation uncontrolled
- Requires different type of boom
- Access/deployment ability
- Appropriate equipment for environment and access point

Alternative Methods

- Address changes to meet response requirements
- Effluent discharge upgrade by the facility
- Spill gate at discharge point
- Access to deployment area improved

Logs not maintained

- §112.20(h)(8)(iv):
- Requires a Discharge meeting be conducted
- App. F, Section 1.8.1
  - records to be maintained for 5 yrs
  - Includes all PREP required training, inspections and exercises
- Common observations:
  - No documentation of it being performed
  - No mention of any training documentation methods or forms to demonstrate the understanding of the requirement
- Lack OSRO and/or facility logs of inspection and deployment
- During an inspection the equipment is poorly maintained
- No access to deployment area

FRP-Field Related Inspection Activities

- QI Interview
- Verify that QI understands responsibilities and is the person responsible for implementing the facility's FRP.
- Discussion topics, regarding the handling of a discharge:
  - Discharge discovery and assessment
  - Notifications and mitigation measures
  - Temporary storage of recovered product and contaminated materials
  - Treatment and disposal of contaminated materials
  - Roles and responsibilities of response team and other facility or contractor employees
  - Incident command and control
  - Training, exercise, and evaluation

FIELD INSPECTION

DOCUMENTS REVIEWED AT TIME OF INSPECTION

- OSRO / Cleanup contractors' CURRENT contracts ·
- Contractor's equipment deployment exercise logs.
- Training / drills exercises logs including:
  - QI Notification exercise
  - Spill Management Tabletop exercise
  - Facility equipment deployment exercise
  - Unannounced exercise
  - Facility Personnel Response training
  - Discharge Prevention Meeting Logs

- Tank and Secondary Containment Inspection Records.
- Facility Response Equipment Inspection & Testing Records.

Field Inspection Verification

- Government Initiated Unannounced Exercise:
  - Verify the facility's capability to implement the ERAP/FRP
- Does the information represent the actual facility
  - Safety of the facility
  - Prevent/ Mitigate or minimize impact
  - Identified response resources for small, medium, and WCD on site
  - Disposal equipment available
  - Adequate
    - Tanks
    - Containment
    - Drainage planning
    - Personnel involved in cleanup/response
    - Procedure to be used
- Timeframe to update
  - Review
  - After an actual incident

Field Inspection Verification

- Based on plan review information and during the field inspection:
  - Is there adequate response capability (appendix E)
  - Accessibility/effectiveness
    - Waterway
    - Personnel
    - Equipment
  - Adequate
    - Contract help
    - Response training
  - Access additional response equipment and experts

Questions?