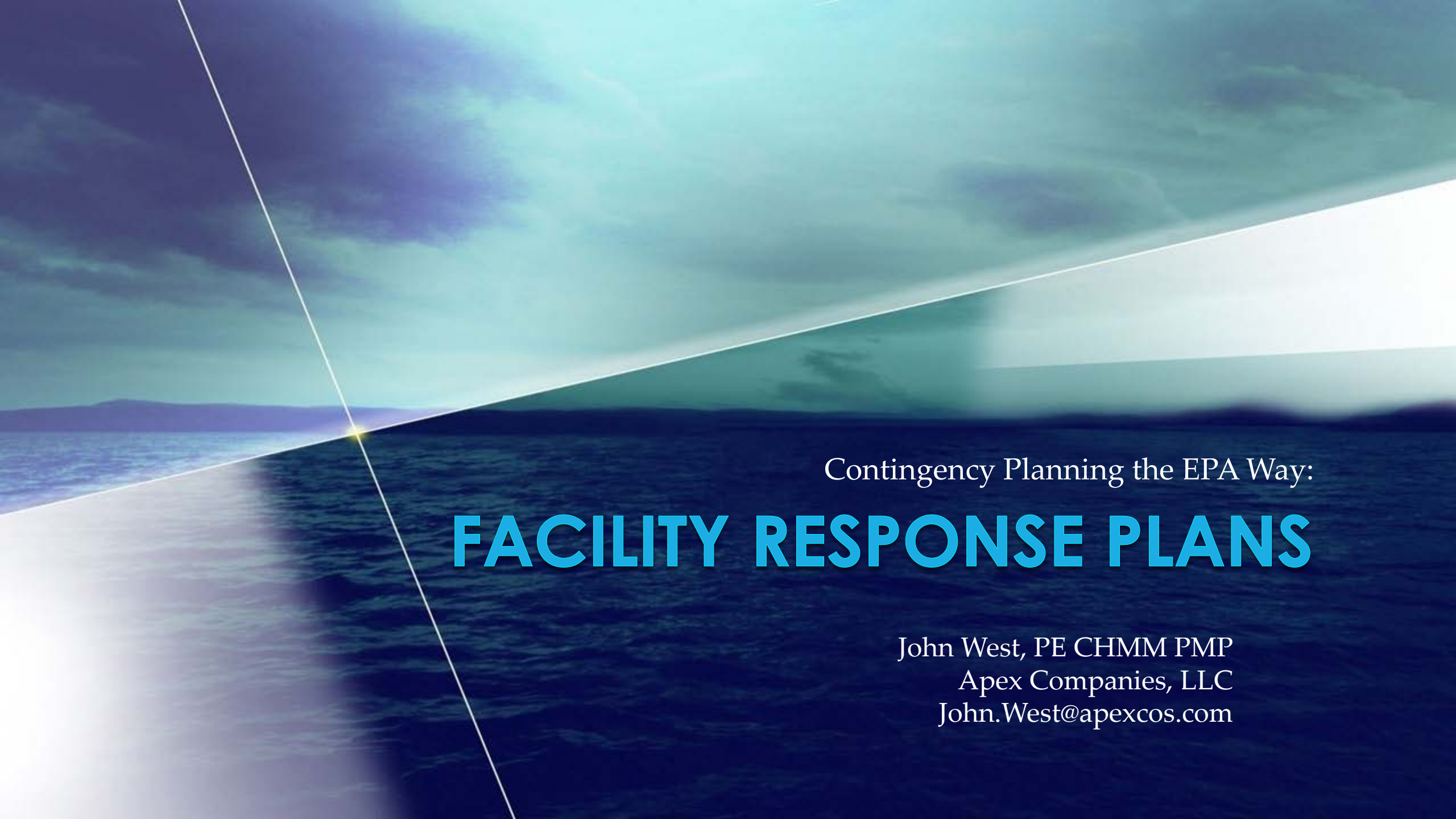
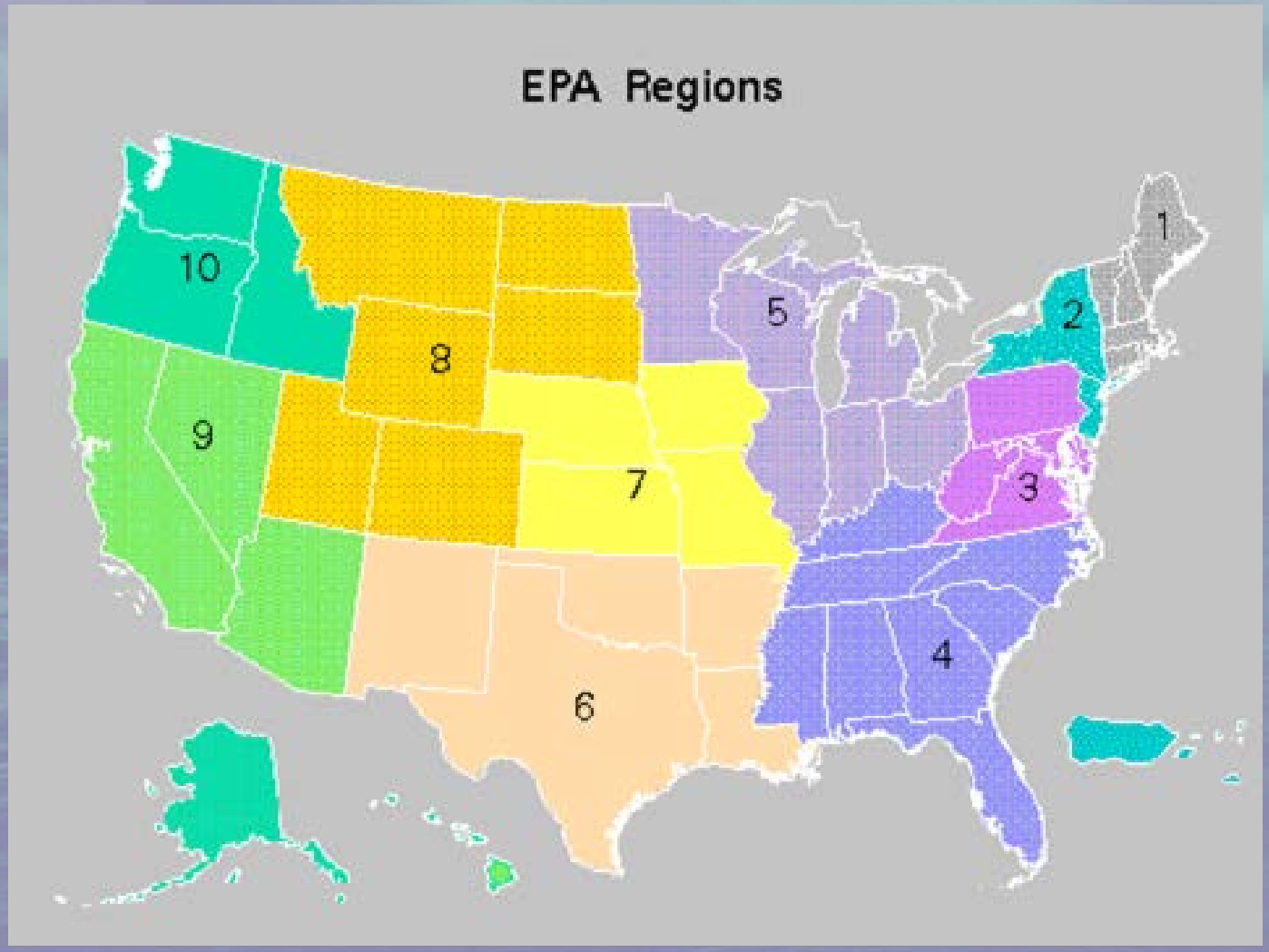


Contingency Planning the EPA Way:

FACILITY RESPONSE PLANS

John West, PE CHMM PMP
Apex Companies, LLC
John.West@apexcos.com

Meet your inspector: U.S. EPA



The SPCC/FRP Universe

Where does the FRP come from?

- **CLEAN WATER ACT**
- **Amended by the OIL POLLUTION ACT OF 1990**

- **Facility Response Plan (FRP), 40 C.F.R. Part 112.20.**

Common FRP Deficiencies

- Inability to respond timely to a discharge;
- QI not adequately trained or knowledgeable to implement FRP;
- Inadequate worst case discharge scenario;
- Inadequate communication equipment;
- Lack of, or poor condition of, oil spill response equipment;
- Outdated, inaccurate notification information;
- Poor evacuation procedures.

Module Objectives

- Required Plan elements
- Plan review
- Actions by EPA upon Plan submittal
- Inspections by EPA

Required Plan Elements And Plan Review

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)]*

Consistency with NCP and ACPs *(continued)*

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

FRP Format Requirements

- Response plan must follow the format of the model plan included in 40 CFR 112, Appendix F
  - … unless the owner/operator has prepared a plan acceptable to the Regional Administrator (RA) to meet state or other federal requirements *[§112.20(h)]*
  - Response plan that does not follow the specified format in Appendix F shall have an emergency response action plan and be supplemented with a cross-reference section *[§112.20(h)]*

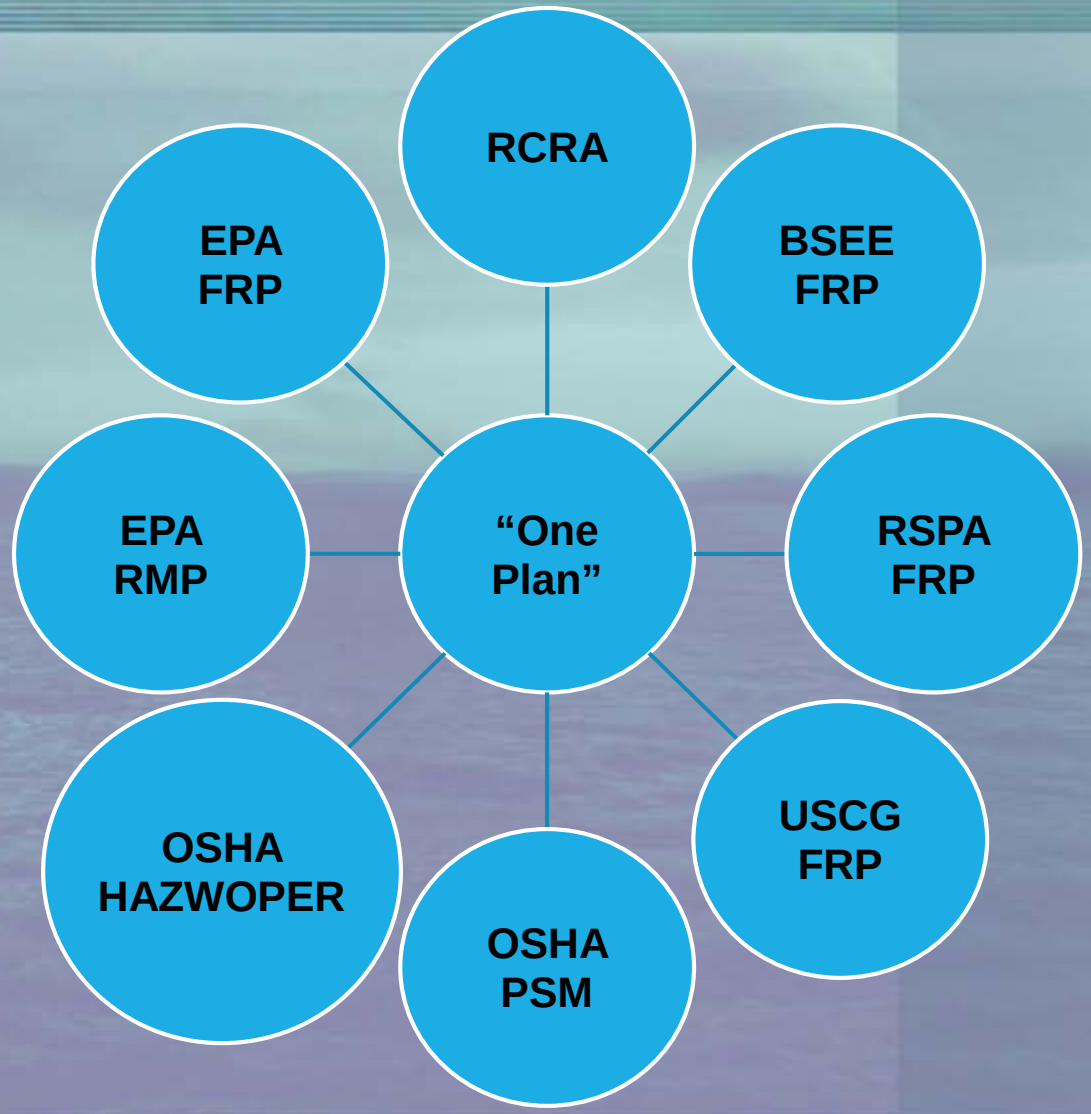
FRP Format

[§112.20(h) and Appendix F]

PLAN SECTION	
1	Emergency Response Action Plan
2	Facility Information
3	Information about Emergency Response
4	Hazard Evaluation
5	Response Planning Levels
6	Discharge Detection Systems
7	Plan Implementation
8	Self-Inspection, Drills/Exercises, and Response Training
9	Diagrams
10	Security Systems
11	Response Plan Cover Sheet

Alternate Formats

- Integrated Contingency Plan (ICP)
- ICP guidance includes:
  - Plan outline or table of contents with suggested structure
  - Matrices with cross-references to specific regulatory requirements
- Plan must include cross-reference to requirements of 40 CFR 112.20 and 112.21
- Plan must still include ERAP



FR# 61:28641-28664

Maintenance of FRP

- Owner or operator must revise and resubmit revised portions of the FRP within 60 days of each facility change that may materially affect the response to a worst case discharge
- Material change examples:
  - Change in the facility configuration that alters information in the FRP
  - Change in the type of oil handled, stored or transferred that affects the required response resources
  - Material change in the capabilities of the oil spill removal organization (OSRO) that provides response equipment and personnel
  - Material change in the facility's oil spill prevention and response equipment or emergency response procedures

§112.20(d)(1)

Maintenance of FRP *(continued)*

- Amendments to the following do not require approval by the RA:
  - Personnel and telephone number lists
  - Change in the OSRO that does not result in a material change in support capabilities
- Facility owners or operators shall provide a copy of such changes to the RA

§112.20(d)(2)

2.0 RESPONSE PLAN COVER SHEET

Response Plan Cover Sheet

- Template of the response Plan cover sheet is included in Section 2 of Appendix F
- Provides basic information concerning the facility, including:
  - General facility information: owner/operator, name, address, location, largest AST capacity, number of ASTs, North American Industry Classification System (NAICS) sector, maximum storage capacity, worst case discharge amount, distance to navigable water
  - Applicability of substantial harm criteria
  - Certification (and signature) by owner/operator that the information provided is true, accurate, and complete

§112.20(h)(11)
Appendix F, Sec 2

1.1 EMERGENCY RESPONSE ACTION PLAN (ERAP)

ERAP Components

- Qualified individual (QI) information *[§1.2 partial]*
- Emergency notification phone list *[§1.3.1 partial]*
- Spill response notification form *[§1.3.1 partial]*
- Response equipment list and location *[§1.3.2 complete]*
- Response equipment testing and deployment *[§1.3.3 complete]*
- Facility response team *[§1.3.4 partial]*
- Evacuation plan *[§1.3.5 condensed]*
- Immediate response actions *[§1.7.1 complete]*
- Facility diagram *[§1.9 complete]*

§112.20(h)(1)
Appendix F, Section 1.1

ERAP Requirement

- Required to have one
- Located in front of FRP or a stand-alone document
- Can be a separate document accompanying the FRP
- Designed for easy access of key information for use during an emergency or oil discharge

§112.20(h)(1)
Appendix F, Section 1.1

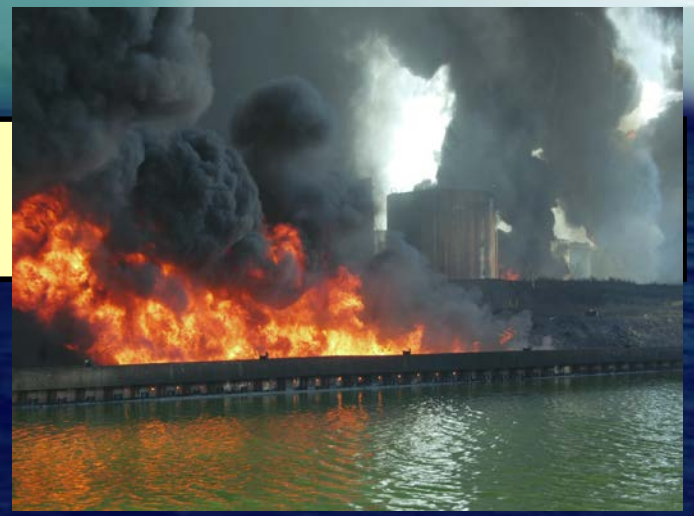
1.2 Facility Information

Facility Information

- Provides an overview of the site and operations
- See "Facility Information Form" in Appendix F
- Covers:
  - Type and location of facility
    - Street address, wellhead protection area, latitude and longitude
  - Identity and tenure of current owner and operator
    - Street address
  - Identity of QI at the facility
    - Name, position, work and home address and emergency telephone number
  - Operational history
    - Date of oil storage start-up
    - Dates and types of substantial expansions
    - Description of current operations

§112.20(h)(2)
Appendix F, Sec 1.2

1.3 EMERGENCY RESPONSE INFORMATION



Emergency Response Information

- Emergency notification phone list
- Spill response notification form
- Provide description of facility's:
  - List of emergency equipment
    - Location
    - Capabilities
    - Launching sites
- Facility owned equipment:
  - Equipment testing and deployment exercises to ensure
    - Operational
    - Personnel capability with the equipment
    - Semiannual equipment deployment
    - Follow National Preparedness for Response Exercise Program (PREP)
- OSRO dependent:
  - Provide annual equipment deployment exercises by OSRO
  - Verify OSRO is meeting the PREP requirements
  - Evidence of contract/agreement

§112.20(h)(3)
Appendix F, Sec 1.3

Emergency Response Information

Facility response personnel and OSRO:

- Three forms required
  - Emergency response personnel
  - Emergency response contractors
  - Facility response team
    - Response time
    - Contact information
    - Response roles and responsibilities
    - Training level
    - Evidence of contract

§112.20(h)(3)
Appendix F, Sec 1.3

Emergency Response Information

- Evacuation Plan
  - List factors to be considered
    - Location of stored materials
    - Hazards imposed by discharged material
    - Discharge flow direction
    - Prevailing wind direction and speed
    - Water currents, tides or wave conditions
    - Arrival routes of emergency personnel and response equipment

§112.20(h)(3)
Appendix F, Sec 1.3

Emergency Response Information

- List factors to be considered *(continued)*
  - Evacuation routes and alternate evacuation routes
  - Transportation route of injured personnel
  - Location of alarm/notification systems
  - The need for a centralized check-in area for evacuation validation
  - Selection of a mitigation command center
  - Location of shelter at the facility as an alternative to evacuation
- Reference existing community evacuation plans

§112.20(h)(3)
Appendix F, Sec 1.3

Emergency Response Information

- QI duties and responsibilities:
  - Activate internal alarms to notify facility personnel
  - Notify all response personnel, as needed
  - Assess all spills and spill interactions
  - Make all appropriate external notifications
  - Assess possible hazards to human health and the environment
  - Implement response actions
  - Be able to access company funding to initiate response actions
  - Direct cleanup activities

§112.20(h)(3)(ix)
Appendix F, Sec 1.3

1.4 FRP HAZARD EVALUATION

Hazard Identification

- Requires observation of conditions under which oil is used, processed, produced, or stored
- Document location of tanks and surface impoundments

Hazard Identification Tanks					
Tank No.	Substance Stored (Oil/HS)	Quantity Stored (gallons)	Tank Type/Year	Max. Capacity (gallons)	Failure/ Cause

Hazard Identification Surface Impoundments					
SI No.	Substance Stored	Quantity Stored (gallons)	Surface Area/Year	Max. Capacity (gallons)	Failure/ Cause

§112.20(h)(4)
Appendix F, Sec 1.4

Hazard Identification

- Develop schematic drawing
  - Label using numbers from the tank and surface impoundment (SI) forms
  - Identical to schematic drawing in SPCC plan
- Describe facility operations
  - Loading/unloading of transportation vehicles (trucks, railroad cars, vessels, etc.)
  - Activities such as scheduled venting, piping repair or valve maintenance, repair or replacement
  - Material involved in transfer operations
  - Secondary containment volume associated with bulk storage containers and transfer points
  - Normal daily throughput and impacts of changes in throughput

§112.20(h)(4)
Appendix F, Sec 1.4

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 & medical facilities
  - Residential areas & businesses
  - Wetlands & other sensitive environments
  - Fish & wildlife areas
  - Lakes and streams
  - Endangered flora & fauna
  - Transportation routes
  - Utilities
  - Recreational parks (e.g. public parks)
  - Other areas of economic importance

§112.20(h)(4)
Appendix F, Sec 1.4

Analyze Potential for an Oil Spill

- Discusses the probability of oil spills occurring at the facility, considering historical accident data, as documented in the FRP *[§1.4.3]*

§112.20(h)(4)
Appendix F, Sec 1.4

Analyze Potential for an Oil Spill

- Considerations:
  - Range of potential discharges
  - Vulnerability to natural disasters
    - Earthquakes
    - Floods
    - Hurricanes
  - Industry records
  - Uses of oil at the facility
  - Tank age and maintenance

§112.20(h)(4)
Appendix F, Sec 1.4

Hazard Evaluation
Reportable Oil Spill History

- Facility must briefly describe the oil spill history for the entire life of the facility *[Section 1.4.4],* including:
  - Date of the discharge
  - List of discharge causes
  - Materials discharged
  - Amount discharged in gallons
  - Amount of discharge that reached navigable waters (if applicable)
  - Effectiveness and capacity of secondary containment
  - Cleanup actions taken

§112.20(h)(4)
Appendix F, Sec 1.4

Hazard Evaluation
Reportable Oil Spill History *(continued)*

- Steps taken to reduce possibility of recurrence
- Total oil storage capacity of the tanks or impoundments from which the material discharged
- Enforcement actions
- Effectiveness of monitoring equipment
- Description of how the discharge was detected

§112.20(h)(4)
Appendix F, Sec 1.4

1.5 DISCHARGE SCENARIOS

Response Planning Levels

- Discuss specific planning scenarios for:
  - Small discharge
  - Medium discharge
  - Worst case discharge

- For complexes (regulated under OPA 90 by more than one agency), planning quantities must be the larger of the amounts calculated for each component of the facility

§112.20(h)(5)
Appendix F, Sec 1.5

Response Planning Levels
Small and Medium Discharges

- Small discharge: 2,100 gallons or less
- Medium discharge:
  - Greater than 2,100 gallons, BUT
  - Less than or equal to 36,000 gallons or 10 percent of the largest tank at the facility, whichever is less
- Describe spill scenarios that could contribute to a small or medium discharge, e.g.:
  - Loading/unloading
  - Facility maintenance
  - Facility piping
  - Pumping stations and pumps
  - Age and condition of facility and components
  - Vehicle refueling
  - Oil storage tanks

§112.20(h)(5)
Appendix F, Sec 1.5

Response Planning Levels
Small and Medium Discharges

- Scenarios shall also consider the following factors:
  - Size of discharge
  - Proximity to down gradient wells, waterways, and drinking water intakes
  - Proximity to fish and wildlife and sensitive areas
  - Likelihood that discharge will flow offsite
  - Location of the material discharged (concrete/soil)
  - Material discharged
  - Weather and aquatic conditions
  - Available remediation equipment
  - Probability of a chain reaction of failures
  - Direction of discharge pathway

§112.20(h)(5)
Appendix F, Sec 1.5

Response Planning Levels
Worst Case Discharge (WCD)

- Identify WCD volume by using Appendix D calculation worksheet for production and non-production
- The same factors considered for small and medium will be used for WCD (see previous slides)
- If RA determines facility WCD is not appropriate, then the RA may specify the WCD amount
- Complex facility shall be the largest quantity of amount calculated for each component

§112.20(h)(5)
Appendix F, Sec 1.5

Response Planning Levels
Worst Case Discharge (WCD)

- Permanently manifolded tanks are defined as, designed, installed and operated as one tank
  - If so, the combined total of the manifolded tanks within secondary containment will be considered WCD
  - Any tanks not in secondary containment must be added with largest volume calculation
  - Each type or oil group will be evaluated separately to determine largest volume and impacts based on oil behavior

§112.20(h)(5)
Appendix F, Sec 1.5

Response Planning Levels
Worst Case Discharge (WCD) *(continued)*

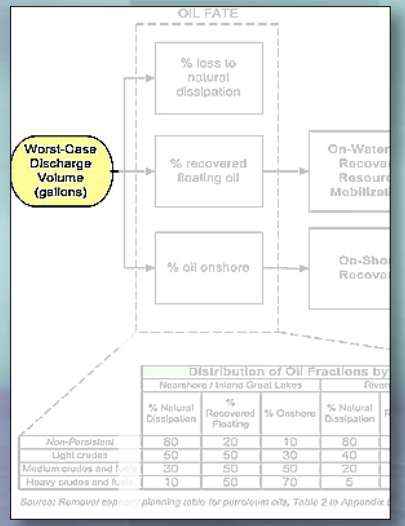
- Facility must provide evidence to prove the tanks are not manifolded together
  - Largest volume will be calculated by the largest tank within secondary containment
  - Any tanks not in secondary containment must be added with largest volume calculation
  - Each type or oil group will be evaluated separately to determine largest volume and impacts based on oil behavior

§112.20(h)(5)
Appendix F, Sec 1.5

Response Planning Levels

Worst Case Discharge (WCD)

- Facility owner/operator determines WCD volume
- Appendix D includes worksheets to calculate volume based on type of facility and number of tanks
  - Bulk storage facilities
    - Calculate based on single or multiple tanks
  - Oil production facilities
    - Calculate based on single or multiple tanks, and
    - Type of well: pumping or under pressure/exploratory
- Regional Administrator (RA) may specify a different discharge amount to be used for response planning if Region determines that the WCD calculated by the facility is not appropriate.



[Appendix D, Part A]

Response Planning Levels

WCD Calculation *(continued)*

Onshore Storage Facilities with a Single Tank

If tank has *adequate* secondary containment:	If tank has *inadequate* secondary containment:
*WCD = tank capacity * 0.8*	*WCD = tank capacity*

[Appendix D, Part A.1]

Response Planning Levels

WCD Calculation *(continued)*

Onshore Storage Facilities with Multiple Tanks

If all aboveground storage tanks (ASTs) have *adequate* secondary containment:

WCD = capacity of largest AST

If all ASTs have *inadequate* secondary containment:

WCD = total capacity of all ASTs

If one or more AST(s) without adequate secondary containment: *WCD* = total capacity of all ASTs without adequate secondary containment + capacity of largest AST within adequate secondary containment

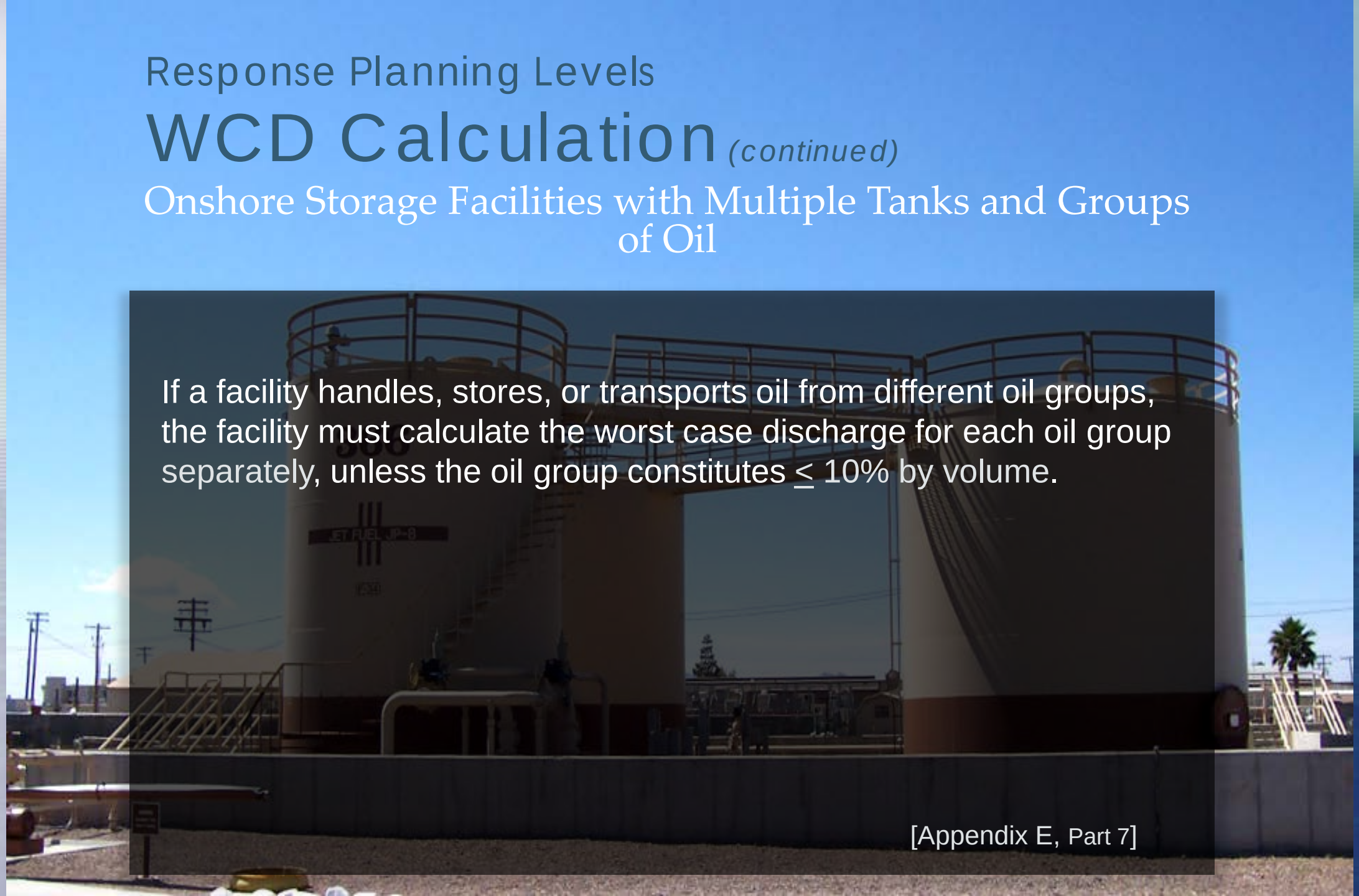
Note: permanently manifolded tanks are calculated as one AST

[Appendix D, Part A.2]

Response Planning Levels

WCD Calculation *(continued)*

Onshore Storage Facilities with Multiple Tanks and Groups of Oil



If a facility handles, stores, or transports oil from different oil groups, the facility must calculate the worst case discharge for each oil group separately, unless the oil group constitutes ≤ 10% by volume.

[Appendix E, Part 7]

Response Planning Levels
Example Onshore Facility-Adequate Secondary Containment and WCD

Tank No.	Tank Type	Contents / Capacity (gal)	Containment Capacity (gal)	Containment	Oil Group
ABOVEGROUND STORAGE TANKS					
A-1	Steel IFR	Gasoline / 2,500,000	3,750,000	Concrete berm	1
A-2	Steel IFR	Gasoline / 2,500,000	3,750,000	Concrete berm	1
A-3	Steel IFR	Diesel / 1,500,000	2,100,000	Concrete berm	2
A-4	Steel IFR	Diesel / 1,200,000			
A-5	Steel IFR	Kerosene / 1,200,000	1,800,000	Concrete Berm	1
A-6	Steel FR	Boiler Fuel / 750,000	1,900,000	Lined earth berm	4
A-7	Steel FR	Heating Oil / 1,500,000			2
A-8	Steel FR	Lubricating Oil / 1,000,000			3
A-9	Steel HC	Gasoline / 5,000	6,000	Concrete dike	1
A-10	Steel HC	Diesel / 5,000	> 5,000	DW	2

DW- Double-Walled FR- Fixed Roof HC- Horizontal Cylindrical IFR- Internal Floating Roof

Response Planning Levels
Example Onshore Facility-Adequate Secondary Containment and WCD *(continued)*

What are the small, medium and worst case discharge planning volumes for this hypothetical facility?

Oil Group	Total Storage Capacity (gallons)	% of Total Facility Storage Capacity, 12,160,000 gallons
1 (gasoline/kerosene)	6,205,000	51
2 (diesel/heating oil)	4,205,000	35
3 (lube oil)	1,000,000	8
4 (boiler fuel)	750,000	6

The facility must calculate the worst case discharge for each oil group separately, unless the oil group constitutes ≤ 10% by volume.

Response Planning Levels

Example Onshore Facility-Adequate Secondary Containment and WCD *(continued)*

- Worst case discharge planning volume, Group 1 oil (gasoline/kerosene)
  - Volume without adequate secondary containment = 0 gallons
  - Largest tank volume: 2,500,000 gallons
  - Final Worst Case Discharge Volume: 2,500,000 gallons
- Medium discharge planning volume, Group 1 oil
  - 10% of WCD = 250,000 gallons
  - > 36,000 gallons
  - Final Medium Discharge Volume: 36,000 gallons
- Small discharge planning volume, Group 1 oil: ≤ 2,100 gallons
  - Final Small Discharge Volume: ≤ 2,100 gallons

Response Planning Levels

Example Onshore Facility-Adequate Secondary Containment and WCD *(continued)*

- Worst case discharge planning volume, Group 2 oil (diesel/heating oil)
  - Volume without adequate secondary containment = 0 gallons
  - Largest tank volume: 1,500,000 gallons
  - Final Worst Case Discharge Volume: 1,500,000 gallons
- Medium discharge planning volume, Group 2 oil
  - 10% of WCD = 150,000 gallons
  - > 36,000 gallons
  - Final Medium Discharge Volume: 36,000 gallons
- Small discharge planning volume, Group 2 oil: ≤ 2,100 gallons
  - Final Small Discharge Volume: ≤ 2,100 gallons

Response Planning Levels
Example Onshore Facility-Adequate Secondary Containment and WCD *(continued)*

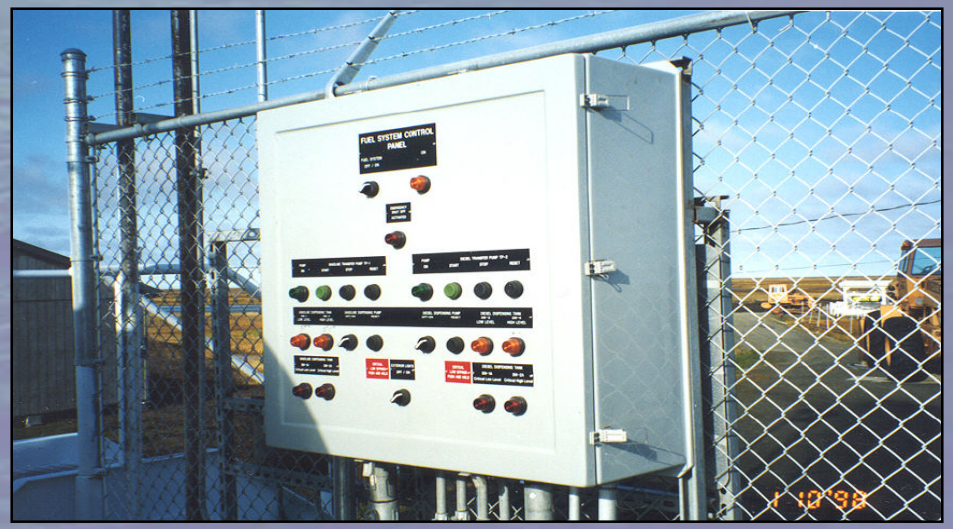
Response Planning Level	All Tanks in Adequate Secondary Containment
Small	≤ 2,100 gallons/ 50 barrels
Medium	36,000 gallons/ 857 barrels
Group 1 Oil WCD	2,500,000 gallons/ 59,524 barrels
Group 2 Oil WCD	1,500,000 gallons/ 35,714 barrels

1.6 DISCHARGE DETECTION SYSTEMS

Discharge Detection Systems

Detailed description of procedures and equipment used to detect discharges

- Spill detection by personnel (inspections and initial actions)
- Automated spill detection (reliability of alarms, etc.)



§112.20(h)(6)
Appendix F, Sec 1.6

Discharge Detection Systems

Discharge detection by personnel *[App. F, Sec. 1.6.1]*

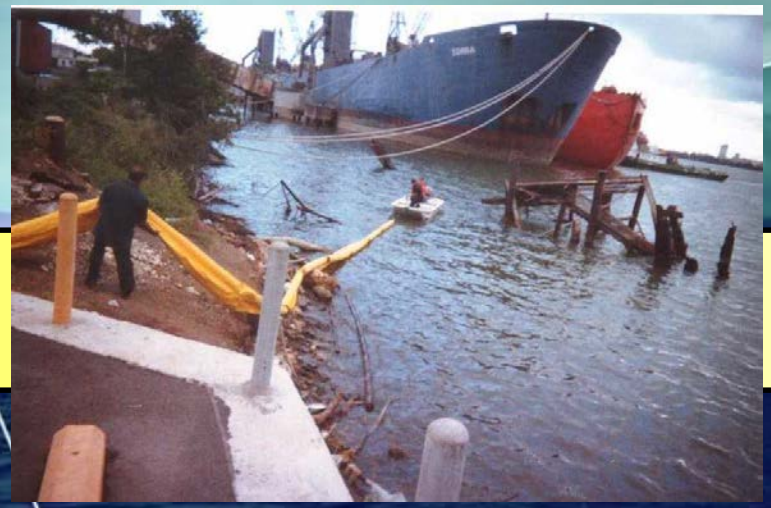
- Procedures and personnel that will detect any discharge
- Discussion of facility inspection
- Description of initial response actions

Automated discharge detection *[App. F, Sec. 1.6.2]*

- Discussion of automated discharge detection equipment (overfill alarms, secondary containment sensors, etc.)
- Procedures to verify alarms, and actions once verified

§112.20(h)(6)
Appendix F, Sec 1.6

1.7 PLAN IMPLEMENTATION



Plan Implementation

- The plan shall explain in detail how to implement the emergency plan by the following response actions:
  - Ensure safety of the facility
  - Mitigate or prevent discharge
  - Identify response resources for small, medium, and WCD
  - Define disposal plan
  - Containment
  - Drainage planning
  - Identify personnel involved in cleanup
  - Define procedure to be used
  - Define timeframe to update
    - Review
    - After an actual incident

§112.20(h)(7)
Appendix F, Sec 1.7

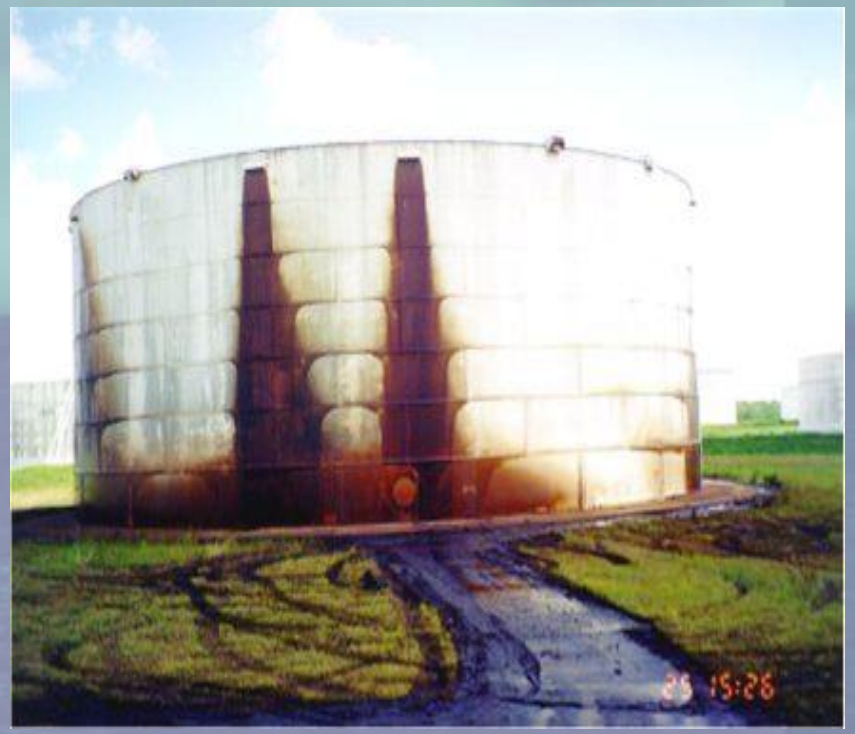
Plan Implementation

- Must demonstrate accessibility/effectiveness
  - Personnel
  - Equipment
- *Determine and demonstrate adequate response capability (use Appendix E)*
- Discuss how to expedite the cleanup
- Additional:
  - Response training
  - Contract help
  - Access additional response equipment and experts

§112.20(h)(7)
Appendix F, Sec 1.7

Plan Implementation

- Demonstrate ability to implement the plan including:
  - Training
  - Practice drills
  - PREP requirements
- List immediate actions
  - Stop sources
  - Warn personnel
  - Shut off ignition
  - Initiate containment
  - Notify:
    - NRC
    - OSC
    - Other agencies



§112.20(h)(7)
Appendix F, Sec 1.7

Response Planning Levels

- Required discussion of specific planning scenarios
- Multi-level planning approach
  - Response is quantitatively different depending on quantity of discharge
  - Potential direction of spill pathway
  - Planning discharge scenarios are:
    - Small
    - Medium
    - WCD

§112.20(h)(7)
Appendix F, Sec 1.7

FRP Spill Response Planning Levels-*Recap*

Planning scenario	Oil volume
Small	2,100 gallons or less
Medium	Greater than 2,100 gallons but less than or equal to 36,000 gallons or 10 percent of largest tank at facility, whichever is less
Worst Case	Calculated based on type of facility, number of containers, whether secondary containment is adequate, and capacity of largest aboveground storage tank (AST) Often the capacity of the largest AST

Determination of Response Resources – *A More Detailed Look*

§§112.20(h)(7)
Appendix F, Sec 1.7
Appendix E, Sec 5

Appendix E

Determination of Required Response Resources for FRPs

- Appendix E includes procedures for identifying response resources necessary to address small, medium, and worst case discharges
- In applying Appendix E, plan preparers will want to ensure that response equipment is available:
  - In sufficient quantities
  - For the intended "operating environment"
  - Appropriate to the oil type
  - Can be mobilized within prescribed time standards
- Reviewers will also want to validate the operability and overall readiness of this equipment

Equipment 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

[Appendix E, Section 2.1]

Equipment Operability and Readiness
(continued)

- Facility handling, storing, or 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
- Use Table 1 of Appendix E to evaluate operability in various operating environments

[Appendix E, Section 2.2 - 2.3]

Response Resource Operating Criteria

TABLE 1 TO APPENDIX E—RESPONSE RESOURCE OPERATING CRITERIA

Oil Recovery Devices

Operating environment	Significant wave height[1]	Sea state
Rivers and Canals	≤ 1 foot	1
Inland	≤ 3 feet	2
Great Lakes	≤ 4 feet	2–3
Ocean	≤ 6 feet	3–4

Example facility's operating environment

Boom

Boom property	Use			
	Rivers and canals	Inland	Great Lakes	Ocean
Significant Wave Height[1]	≤ 1	≤ 3	≤ 4	≤ 6
Sea State	1	2	2–3	3–4
Boom height—inches (draft plus freeboard)	6–18	18–42	18–42	≥ 42
Reserve Buoyancy to Weight Ratio	2:1	2:1	2:1	3:1 to 4:1
Total Tensile Strength—pounds	4,500	15,000–20,000.	15,000–20,000.	≥ 20,000
Skirt Fabric Tensile Strength—pounds	200	300	300	500
Skirt Fabric Tear Strength—pounds	100	100	100	125

[1] Oil recovery devices and boom *shall* be at least capable of operating in wave heights up to and including the values listed in Table 1 for each operating environment.

Required Response Resources for EPA FRP Facilities

- Response Resources for a Small Discharge (less than or equal to 2,100 gallons):
  - USCG refers to this category as "average most probable discharge"
  - 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 capable of deploying boom within 1 hour of small discharge discovery
  - Oil recovery devices with an effective daily recovery capacity equal to the amount of the oil discharged in a small discharge or greater at the facility within 2 hours of the detection of a small discharge
  - Available temporary storage capacity equal to twice the volume of the small discharge

[Appendix E, Section 3.0]

Required Response Resources for EPA FRP Facilities *(continued)*

- Response Resources for a Medium Discharge (36,000 gals or 10% of WCD, whichever is less):
  - Availability of sufficient quantities of boom for containment & collection and for protection of fish, wildlife and sensitive environments
  - Oil recovery devices with an effective daily recovery capacity equal to 50% of the total volume of the medium discharge
  - Equipment arrival times within 6 hours (high volume ports & Great Lakes) and 12 hours (all other areas)
  - Available temporary storage capacity equal to the volume of the medium discharge
  - USCG equivalent category is "maximum most probable discharge" and is 1200 barrel (50,400 gallons) or 10% of WCD, whichever is less

[Appendix E, Section 4.0]

Required Response Resources for EPA FRP Facilities
(continued)

- Response Resources for a Worst Case Discharge (as calculated based on Appendix D):
  - Respond to maximum extent practicable
  - USCG WCD calculation is different-if facility is a complex, then prepare for whichever WCD is greater
  - If 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
  - Availability of temporary storage capacity equal to twice the response equipment's daily recovery capacity (see Section 12.2)
  - Effective daily recovery capacity cannot exceed temporary storage capacity limits
  - Sections 7 and 10.0 of Appendix E describe method to determine necessary response resources (see also Attachment E-1 of Appendix E)

[Appendix E, Section 5.0]

Required Response Resources for EPA FRP Facilities *(continued)*

Response Resources for a Worst Case Discharge:

- Must arrive in times specified for the 3 levels of response tiers
- Response resources identified in the plan must arrive at the scene of a discharge within the times specified for the applicable response tier listed as follows:

	Tier 1 (in hours)	Tier 2 (in hours)	Tier 3 (in hours)
Higher volume port areas	6	30	54
Great Lakes	12	36	60
All other river and canal, inland, and nearshore areas	12	36	60

Example facility's operating environment

[Appendix E, Section 5.3]

Determining Effective Daily Recovery Capacity for Oil Recovery Devices

- For each oil recovery device, identify the manufacturer, model and effective daily recovery capacity
- Effective daily recovery capacity is used to determine whether the devices are sufficient to meet planning criteria for:
  - Small
  - Medium
  - WCD, to maximum extent practicable

[Appendix E, Section 6.1]

Determining Effective Daily Recovery Capacity for Oil Recovery Devices *(continued)*

Oil recovery devices formula:

R = T x 24 hours x E

- R = effective daily recovery capacity
- T = throughput rate in barrels/hr
- E = 20% efficiency factors

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

Note: For those devices where the pump limits the throughput of the liquid, throughput capacities shall be calculated using the pump capacity

[Appendix E, Section 6.2.1]

Plan Implementation

- Disposal plan must:
  - Be in accordance with Resources Conservation and Recovery Act (RCRA)
  - Identify how and where disposal of spill material will be handled
  - Identify required agency permits and regulations:
    - Federal
    - State
    - Local

§112.20(h)(7)
Appendix F, Sec 1.7

Plan Implementation

- Disposal plan must *(continued):*
  - Account for:
    - Recovered product
    - Contaminated soil
    - Contaminated equipment/materials
    - Drums/tank parts
    - Valves
    - Spent chemicals
    - Personal Protective Equipment (PPE)
    - Sorbents
    - Decontamination solution
  - Be included in the SPCC

§112.20(h)(7)
Appendix F, Sec 1.7

Plan Implementation

- Containment and drainage planning
  - Proper plan to contain and control a spill through drainage to limit the 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

§112.20(h)(7)
Appendix F, Sec 1.7

Plan Implementation

- Containment and drainage planning *(continued)*
  - Meet the SPCC requirements for drainage inspection and monitoring
  - A copy of the containment and drainage plans in the SPCC Plan may be inserted into the FRP, including any diagrams

§112.20(h)(7)
Appendix F, Sec 1.7

Firefighting Resources

- Include fire fighting capability in plan
- Ensure availability of fire fighting resources-by contract or other approved means
- An individual must be identified to work with the fire department for Group 1-5 oil fires
- Personnel appropriately trained and available within reasonable response time

[Appendix E, Section 7.4, 7.6, 7.7]

1.8 SELF INSPECTION, DRILLS/EXERCISES, AND RESPONSE TRAINING

Self-Inspection, Drills and Exercises and Response Training

- FRP must include:
  - Checklist and record of inspections for bulk storage containers, secondary containment systems and response equipment
  - Description of training program *[refer to 112.21(b)]*
  - Description of drill/exercise program *[refer to 112.21(c)]*
  - Log of discharge prevention meetings, training sessions, and drills and exercises
- Records and logs must be maintained for **five** years
  - SPCC records must be maintained for three years

§112.20(h)(8)
Appendix F, Sec 1.8

Inspection Sample Logs

- Tank inspection checklist
  - Check for leaks
    - Look for drip marks, discoloration of tanks, puddles of spilled material, corrosions, and cracks.
  - Check piping
    - Look for leaks, discoloration, corrosion, bowing of pipes between supports, evidence of seepage from valves or seals and localized dead vegetation.
  - Check foundation
    - Look for cracks, discoloration, spilled materials, settling, gaps between tank and foundation and damage by roots.

TANK/SURFACE IMPOUNDMENT INSPECTION LOG			
Inspector	Tank or SI #	Date	Comments

§112.20(h)(8)
Appendix F, Sec 1.8

Inspection Sample Logs *(continued)*

- Response equipment inspection checklist
  - Inventory
  - Storage location
  - Accessibility
  - Operational status/condition
  - Actual use and testing (last test date and frequency of testing)
  - Shelf life (present age, expected replacement date)

RESPONSE EQUIPMENT INSPECTION LOG		
Inspector	Date	Comments

§112.20(h)(8)
Appendix F, Sec 1.8

Inspection Sample Logs *(continued)*

- Secondary containment inspection checklist
  - Dike or berm system
    - Level of precipitation
    - Operational status of drainage valves
    - Dike or berm permeability
    - Debris, erosion
    - Location and status of pipes, inlets, and drainage beneath tank
  - Secondary containment
    - Cracks, discoloration
    - Presence of spilled material
    - Corrosion, and valve condition
  - Retention and drainage ponds
    - Erosion
    - Available capacity
    - Leaked material
    - Debris and stressed vegetation

§112.20(h)(8)
Appendix F, Sec 1.8

Training/Exercises Sample Logs

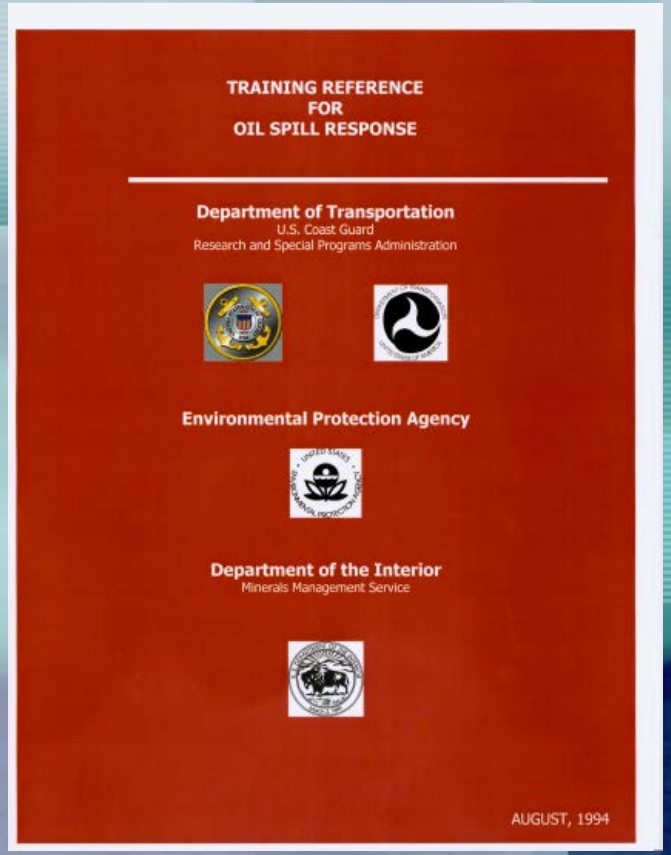
PERSONNEL RESPONSE TRAINING LOG		
Name	Response training/date and number of hours	Prevention training/date and number of hours

DISCHARGE PREVENTION MEETING LOGS		
Date		
Attendees		
Subject/Issue identified	Required action	Implementation date

§112.20(h)(8)
Appendix F, Sec 1.8

Response Training

- Must provide adequate training for:
  - QI
  - Facility personnel
  - Spill management teams
- For example, scope of QI and facility personnel training:
  - Notification procedures, communication systems, internal response organizations
  - Procedures for mitigating a discharge or threat of a discharge, including site safety and security
  - Hazard recognition and evaluation and emergency and evacuation procedures



§112.20(h)(8)
§112.21(b)
Appendix F, Sec 1.8

84

Facility Drills and Exercises

- Use the **PREP** guidelines or equivalent
  - Combination of internal and external exercises
  - Range of exercises cover all aspects of the FRP over a three-year cycle
  - RA must approve program if not based on PREP guidelines
- Facility receives credit for area or facility-specific exercises for actual response to a spill if:
  - ☑ Plan was utilized for response
  - ☑ Objectives were met
  - ☑ The response was properly evaluated, documented, and self-certified

§112.20(h)(8)
§112.21(c)
Appendix F, Sec 1.8

PREP

NATIONAL PREPAREDNESS

FOR

RESPONSE EXERCISE PROGRAM

(PREP)

GUIDELINES

DEPARTMENT OF TRANSPORTATION
U.S. Coast Guard
Research and Special Programs Administration

ENVIRONMENTAL PROTECTION AGENCY

DEPARTMENT OF THE INTERIOR
Minerals Management Service

August 2002

To the "Response Community":

This is the first revision since August 1994 to the Preparedness for Response Exercise Program (PREP) when we set out together to design an effective and coordinated exercise program under the Oil Pollution Act of 1990. As before, the revisions are the result of an open dialogue and the incorporation of lessons learned over the past 8 years. We considered issues identified in public meetings and in written comments received to the Department of Transportation regulatory docket (2000-7514). The PREP will evolve as the government and industry continue to meet the challenge of protecting the environment, public health and welfare. We look forward to working with all parties as we continue to improve the PREP process.

Captain David Westerholm
Chief, Office of Response
U.S. Coast Guard

Michael B. Cook
Director, Office of Emergency and Remedial Response
U.S. Environmental Protection Agency

Stacey Gerard
Associate Administrator for Pipeline Safety
Research and Special Programs Administration

Elmer P. Danenberger
Chief, Engineering and Operations Division
Minerals Management Service

FRP Training and Exercise Requirements
(continued)

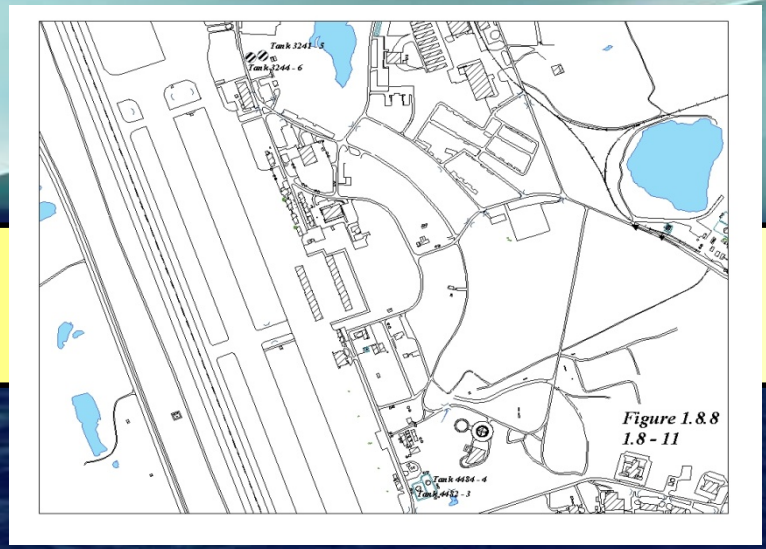
- Purpose of Exercise: Demonstrate timely, properly conducted response that follows the FRP with adequate equipment for a small discharge
- Exercise Types:
  - Internal Exercises: Initiated by facility owner/operator
  - External Exercise: Government-initiated (e.g., GIUE)

PREP Exercise Components

Element	Frequency*	Initiating Authority	Notes
QI Notification Exercises	Quarterly	Facility owner or operator	At least one notification per years must be made off-hours
Emergency Procedures Exercises	Quarterly	Facility owner or operator	*Optional: can be used by facilities as an unannounced exercise*
Spill Management Team Tabletop Exercise	Annually	Facility owner or operator	At least one exercise every 3 years must involve a worst case discharge scenario
Equipment Deployment Exercises	Semiannually (annual, if OSRO dependent)	Facility owner or operator	If OSRO-owned equipment is identified in the Plan, the OSRO equipment must also be deployed and operated. OSRO must provide documentation to facility owner or operator
Government-Initiated Unannounced Exercises	**Triennially**	**EPA, RSPA, USCG**	**If successfully completed, the facility can only be subject to a GIUE once every 3 years**

* At least one exercise per year must be unannounced

1.9 DIAGRAMS



Diagrams

- Site plan diagram
- Drainage diagram
- Evacuation plan
- Other diagrams (i.e., containment/boom diagrams), as appropriate

§112.20(h)(9)
Appendix F, Sec 1.9

Diagrams

- Site plan diagram includes and identifies:
  - Entire facility to scale
  - ASTs, USTs, drum storage areas, process buildings, transfer areas, and electrical equipment containing oil
  - Contents and capacities of bulk oil storage tanks, drum storage sites, and surface impoundments
  - Secondary containment systems (location and capacity)
  - Hazardous material storage sites (including materials stored and capacity
  - Locations of communication equipment and emergency response equipment
  - The interface between EPA regulated facilities and the portion regulated by other agencies (for complexes only)

§112.20(h)(9)
Appendix F, Sec 1.9

Diagrams

- Site drainage plan diagram includes (as appropriate):
  - Sanitary and storm sewers, manholes and drains
  - Weirs and shut-off valves
  - Surface water receiving streams
  - Fire fighting water supply
  - Response personnel ingress and egress
  - Response equipment transportation routes
  - Direction of discharge flow from discharge points

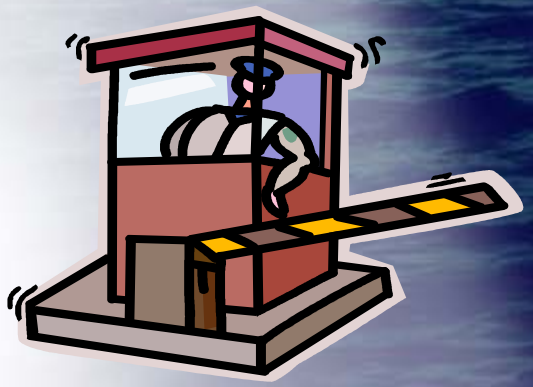
§112.20(h)(9)
Appendix F, Sec 1.9

Diagrams

- Site evacuation plan diagram includes:
  - Evacuation routes
  - Location of regrouping areas

§112.20(h)(9)
Appendix F, Sec 1.9

1.10 SECURITY



Security Systems

- Plan must cover:
  - Emergency cut-off locations
  - Enclosures
  - Guards and their duties for both the day and night shifts
  - Lighting
  - Valves and pump locks
  - Pipeline connection caps
- SPCC Plan requires similar information; duplicate information may be copied and included in this section

§112.20(h)(10)
Appendix F, Sec 1.10

Plan Submittal

- FRPs are required to submitted to applicable EPA Regional office.
- EPA reviews the plan against App. F requirements
- EPA approves plans for significant and substantial harm facilities

Plan Review and Next Steps

- EPA will correspond with the facility if there are any plan deficiencies to correct.
- Prior to approval, EPA may inspect the facility.
- EPA may also inspect the facility and/or conduct an exercise after a plan has been submitted.
- EPA may also inspect and/or conduct an exercise after a significant change to the FRP.

Questions