



FREE 2-HOUR SPCC SEMINAR
 Thurman Cardwell
 April 14, 2010
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Aquionix TECHNICAL SERVICES ALLIANCE


- A long history of collaboration between industry leaders in various technical fields
- A teamed arrangement to share our expertise between companies and provide the highest level of customer service to our clients

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Aquionix ABOUT THE SPEAKER
Thurman Cardwell


- President of Aquionix, Inc.
- BS in Chemistry from Texas A&M
- Extensive experience working on regulatory compliance projects in the field of water quality
- Work with the mining, oil and gas, food and beverage, and manufacturing industries

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Aquionix ABOUT THE SPEAKER
Mark Jensen


- Vice President of Aquionix, Inc.
- MS in Environmental Science from the University of Washington
- Extensive experience working on regulatory compliance projects in the fields of waste management and emergency response
- Work with the mining, petroleum, food and beverage, and manufacturing industries

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Aquionix SEMINAR OBJECTIVES
Part I – Overview of SPCC Regulations
 Purpose and Scope
 Regulatory Framework
 Regulatory Timeline
 Key Changes (2002 to present)
 Compliance Deadline
Part II – Implementation of SPCC Regulations
 Plan Certification Options
 Containment Requirements
 Security Requirements
 Facility Diagrams
 Integrity Testing
 Environmental Equivalence
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Aquionix PART I - REGULATORY OVERVIEW


- Purpose and Scope
- Regulatory Framework
- Regulatory Timeline
- Key Changes (2002 to present)
- Compliance Deadline

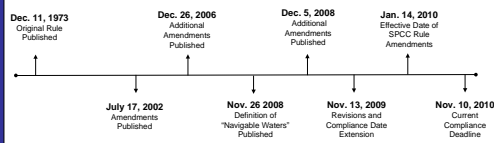
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"Focusing on oil spill prevention, preparedness, and response, the SPCC rule is designed to protect public health, public welfare, and the environment from potential harmful effects of oil discharges to navigable waters and adjoining shorelines."

"The rule requires facilities that could reasonably be expected to discharge oil in quantities that may be harmful into navigable waters of the United States and adjoining shorelines to develop and implement SPCC Plans."

Source: SPCC Guidance for Regional Inspectors
(http://www.epa.gov/OEM/content/spcc/spcc_guidance.htm)

- **SPCC = Spill Prevention, Control and Countermeasures**
- In 1972, the Clean Water Act (CWA) became the principal federal statute for protecting waters of the United States.
 - Section §311 of the CWA addresses the control of oil and authorizes the development of spill prevention and response programs.
- By executive order, the EPA was delegated the authority to regulate these provisions for non-transportation related facilities
 - The Department of Transportation (DOT) has authority to regulate transportation related facilities.
- EPA published the original SPCC rule on December 11, 1973



This timeline does not include compliance date extensions, which were published on:



- January 9, 2003
- April 17, 2003
- August 11, 2004
- May 16, 2007
- December 5, 2008
- February 3, 2009; and
- April 1, 2009

- **First revision to SPCC Regulations since 1973**
- **Key changes included:**
 - Removed 660 gallon single container threshold
 - Established 55 gallon de-minimis threshold
 - Added definitions (including: "facility", "permanently closed", "production facility", "storage capacity")
 - Clarified that oil-filled equipment are not bulk storage containers
 - Extended review/evaluation period from 3 to 5 years
 - Introduced "Environmental Equivalence"
 - Strengthened facility diagram requirements
 - Introduced "Impracticability Determination"
 - Required both visual and non-destructive integrity testing

Defined "Qualified Facilities"

- **Must have:**
 - <10,000 gallons of oil storage capacity; and
 - No oil releases to navigable waters within the past 3 years.
- **May self-certify plan**
- **Streamlined Integrity Testing and Security Requirements**

"Qualified Oil Filled Operational Equipment"

- **May not have had an oil release within the past 3 years**
- **Do not need to meet general secondary containment requirements provided:**
 - inspection and monitoring
 - Spill Contingency Plan
 - Written commitment of resources



Motive Power Containers

- Exempted from SPCC regulations
- Any onboard bulk storage container used primarily to power the movement of a motor vehicle, or ancillary onboard oil-filled operational equipment.

Mobile Refuelers

- Exempted from sized secondary containment requirements
 - Must still comply with general secondary containment requirements*
- A bulk storage container onboard a vehicle or towed, that is designed or used solely to store and transport fuel or transfer it into aircraft, motor vehicle, locomotive, vessel, ground service equipment, or other oil storage container.
- Does not include mobile/portable containers that generally operate in fixed locations at the facility

“Navigable Waters”

Changed the definition of “Navigable Waters” back to the 1973 version.

- (1) All navigable waters of the United States, as defined in judicial decisions prior to the passage of the 1972 Amendments of the Federal Water Pollution Control Act, (FWPCA) (Pub. L. 92-500) also known as the Clean Water Act (CWA), and tributaries of such waters as;
- (2) Interstate waters;
- (3) Intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and
- (4) Intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

Exempted...

- Hot Mix Asphalt
- Pesticide Application Equipment and Related Mix Containers
- Residential Heating Oil Containers
- USTs at Nuclear Power Generation Facilities

Amended the Definition of “Facility”

- Clarified that:
 - Definition of facility determines SPCC applicability;
 - Containers can be separated or aggregated
- Owners have discretion in identifying which contiguous or non-contiguous buildings, properties, parcels, leases, structures, installations, pipes, or pipelines make up a facility.*

Definition of “Facility”

Facility means any mobile or fixed, onshore or offshore building, property, parcel, lease, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and oil waste treatment, or in which oil is used, as described in Appendix A to this part. The boundaries of a facility depend on several site-specific factors, including but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and types of activity at the site. Contiguous or non-contiguous buildings, properties, parcels, leases, structures, installations, pipes, or pipelines under the ownership or operation of the same person may be considered separate facilities. Only this definition governs whether a facility is subject to this part.

Defined “Loading/Unloading” Rack

- Determines whether a facility is subject to 112.7(h)
- Must have a loading/unloading arm, which typically consists of a movable piping assembly that may include fixed piping or a combination of fixed and flexible piping, with at least one swivel joint (or a flexible hose in lieu of such joint)

Loading/unloading rack means a fixed structure (such as a platform, gangway) necessary for loading or unloading a tank truck or tank car, which is located at a facility subject to the requirements of this part. A loading/unloading rack includes a loading or unloading arm, and may include any combination of the following: piping assemblies, valves, pumps, shut-off devices, overflow sensors, or personnel safety devices.



Facility Diagram Clarifications

- Must include all fixed containers
- For mobile or portable containers, must show:
 - Area of facility where containers are stored
 - The number or containers and contents of capacity of each container unless a separate description is provided in the SPCC Plan

General Secondary Containment Clarification

- Must address most likely oil discharge from any part of the facility
- Allowed active or passive containment
- Expanded list of examples to include drip pans, sumps, and collection systems

Security Requirements

- Were streamlined and made performance-based
- May be tailored to facility characteristics and location

“Qualified Facilities”

- Originally defined in 2006 amendments
- Applicable to facilities with no releases and <10,000 gallons of oil storage capacity
- Separated into Tier and Tier II facilities
- Cannot use certain elements such as equivalence and impracticability

Aquionix **December 5, 2008 Amendments**

Oil Production Facility Revisions

- Clarified definition of "production facility" to be consistent with the definition and flexibility of "facility"

Production facility means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or intra-facility gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil (including condensate), or associated storage or measurement, and is located in an oil or gas field, at a facility. This definition governs whether such structures, piping, or equipment are subject to a specific section of this part.

- Production facilities given 6 months from the start of operation to prepare and implement an SPCC Plan

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Aquionix **December 5, 2008 Amendments**

Oil Production Facility Revisions (continued)

- Alternate provisions for flowlines and intra-facility gathering lines
 - Contingency Plan
 - Written commitment of manpower, equipment, and materials
 - Implement a flowline maintenance program
- Clarified that gathering lines that are not intra-facility are subject to DOT regulation and exempt from the SPCC regulations.

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Aquionix **December 5, 2008 Amendments**

Oil Production Facility Revisions (continued)

- Flow-through process vessels
 - Have the primary purpose of separating oil from other fractions and sending the fluids streams to the appropriation container
 - Can implement the following instead of sized secondary containment requirements:
 - Periodic and regular visual inspection and/or testing
 - Corrective action or repairs
 - Prompt removal of oil discharges
 - Must comply with secondary containment requirements for all flow-through process vessels after an oil release.

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Aquionix **November 13, 2009 Revisions**

Finalized most amendments from December 5, 2008, but removed the following:

- Exclusions for oil production facilities and farms from loading/unloading rack requirements.
- Alternative qualified facility eligibility criteria for an oil production facility.
- Exemption for certain produced water containers

Extended Compliance Deadline until November 10, 2010

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Aquionix **Current Compliance Deadline**

The following table outlines compliance dates as of November 13, 2009

A facility starting operation...	Must...
On or before August 16, 2002	<ul style="list-style-type: none"> • Maintain its existing SPCC Plan • Amend and implement the SPCC Plan no later than Nov. 10, 2010
After August 16, 2002 through Nov. 10, 2010	<ul style="list-style-type: none"> • Prepare and implement the SPCC Plan no later than Nov. 10, 2010
After Nov. 10, 2010	<ul style="list-style-type: none"> • Prepare and implement an SPCC Plan before beginning operations*


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Aquionix **10 MINUTE BREAK!**



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Aquionix PART II - IMPLEMENTATION



- Organization of Regulation
- Plan Options
- Containment Requirements
- Security Requirements
- Facility Diagrams
- Integrity Testing
- Environmental Equivalence

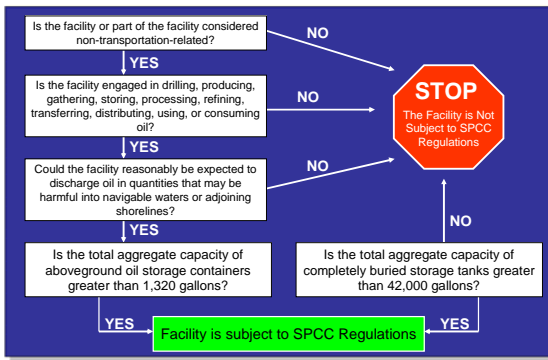
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Aquionix ORGANIZATION OF 40 CFR 112

- Subpart A (112.1 – 112.7) Applicability, definitions, and general requirements for all facilities and all types of oil
 - 112.1 – Applicability
 - 112.2 – Definitions
 - 112.3 – Requirement to Prepare SPCC Plan
 - 112.4/5 – Amendment Requirements
 - 112.6 – Qualified Facility Requirements
 - 112.7 – General Requirements (applicable to all facilities)
- Subpart B (112.8 – 112.11) Requirements for petroleum oils and non-petroleum oils, except those covered in Subpart C
 - 112.8 – Onshore Facilities (excluding production facilities)
 - 112.9 – Onshore Production Facilities (excluding drilling and workover)
 - 112.10 – Onshore Drilling and Workover facilities
 - 112.11 – Offshore Drilling, Production or Workover
- Subpart C (112.12) Requirements for animal fats and oils and greases, and fish and marine mammal oils; and for vegetable oils, including oils from seeds, nuts, fruits, and kernels
- Subpart D (112.20 & 112.21) Response requirements

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Aquionix APPLICABILITY



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Aquionix PLAN OPTIONS

A licensed Professional Engineer (PE) must review and certify as well as attest:

- That he is familiar with the requirements of this part ;
- That he or his agent has visited and examined the facility;
- That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part;
- That procedures for required inspections and testing have been established; and
- That the Plan is adequate for the facility.

A PE certification is not required for "Qualified Facilities"

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Aquionix PLAN OPTIONS

Qualified Facilities

If the facility has...	And...	And the facility has...	Then:
10,000 U.S. gallons or less aggregate aboveground oil storage capacity;	Within any twelve-month period, three years prior to the Plan certification date, or since becoming subject to the SPCC rule if in operation for less than three years, there has been:	No individual aboveground oil containers greater than 5,000 U.S. gallons;	Tier I: Complete and self-certify Plan template
	(1) No single discharge of oil to navigable waters or adjoining shorelines exceeding 1,000 U.S. gallons; and (2) No two discharges of oil to navigable waters or adjoining shorelines each exceeding 42 U.S. gallons in any 12 -month period	Any individual aboveground oil container greater than 5,000 U.S. gallons;	Tier II: Prepare self-certified Plan in accordance with all applicable requirements of §112.7 and subparts B and C of the rule

Discharge assessment is a one-time determination. You do not have re-assess following a technical revision or 5-year review.

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Aquionix PLAN OPTIONS

Tier I Qualified Facilities

- May use template in Appendix G of 40 CFR 112
- May self-certify the template (e.g. their SPCC Plan)
- Do not require a facility diagram
- Cannot use:
 - Environmentally equivalent measures
 - Secondary containment impracticability
 - Provisions requiring PE certification

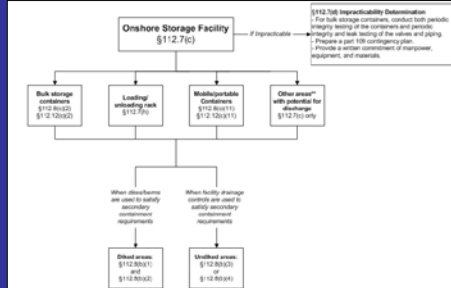
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Tier II Qualified Facilities

- May self certify their plan
- May use environmental equivalence and impracticability, but these elements must be certified by a PE
- Streamlined requirements for:
 - Integrity testing
 - Security

Self-Certification Requirements

- Owner/Operator must attest that they:
 - Are familiar with SPCC requirements
 - Have visited and examined the facility
- Some States do not allow self-certification



Four (4) common containment requirements:

- General** – Active or passive measures to contain the most likely discharge of oil until cleanup occurs. [112.7(c)]
- Bulk Storage Containers** – Sized secondary containment equal to the container's capacity plus room for precipitation [112.8(c)(2)]
- Loading/Unloading Racks** – Sized secondary containment equal to the largest single compartment [112.7(h)(1)]
- Mobile or Portable Containers** – Sized secondary containment equal to the largest single compartment or container plus room for precipitation [112.8(C)(11)]

General Secondary Containment:

- Must be designed to contain the most likely discharge
- Containment methods include: dikes, curbing, culverts, gutters, weirs, booms, barriers, diversion ponds and sorbent materials, drip pans, etc.
- Must be "sufficiently impervious"
- May be "active" or "passive"



Sized Secondary Containment:

- Must contain the largest single oil compartment or container plus "sufficient freeboard" to contain precipitation.

We believe that the proper standard of "sufficient freeboard" to contain precipitation is that amount necessary to contain precipitation from a 25-year, 24-hour storm event. That standard allows flexibility for varying climatic conditions. It is also the standard required for certain tank systems storing or treating hazardous waste. (67 FR 47117)

- The capacity of all permanently manifolded containers must be added together.
- "Sufficient freeboard" requirements do not apply to Loading/Unloading Racks.
- Must subtract displacement volume of other tanks within the same containment.

Aquionix **SECONDARY CONTAINMENT**

Impacticability Determination - 112.7(d)

- Adequate active/passive containment may not always be practical
- In such cases may substitute:
 - Periodic Integrity Testing
 - An Oil Spill Contingency Plan
 - A written commitment of manpower, equipment and materials
- Reason for impracticability must be clearly described within the plan

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Aquionix **SECURITY REQUIREMENTS**

Must Describe in Plan How Facility Will:

- Secure and control access to all oil handling, processing and storage areas;
- Secure master flow and drain valves;
- Prevent unauthorized access to starter controls on oil pumps;
- Secure out-of-service and loading/unloading connections of oil pipelines; and
- Address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.

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Aquionix **FACILITY DIAGRAMS**

Facility Diagram Contents – 112.7(a)(3)

- Aboveground and underground storage tanks
- All mobile/portable containers (>55 gallons)
- Oil filled equipment (>55 gallons)
- Fill ports and connecting piping
- Oil transfer areas
- Loading racks/unloading areas
- *Containment Structures*
- *Flow directions and topography*
- *Storm drains and inlets*
- *Emergency response equipment locations*
(gray = recommended)

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Aquionix **FACILITY DIAGRAMS**

Common Questions

- Containers**
 - May include specific container information (contents, capacity, containment capacity) on a separate log
- Portable/Mobile Containers**
 - Mark the location where they are most frequently located
 - May include a range of contents and capacities
- Transfer Stations and Piping**
 - May leave detailed piping off diagrams provided it is provided on detailed diagrams elsewhere at the facility and referenced on the diagram.

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Aquionix **FACILITY DIAGRAMS**

Supporting Table Examples

Tank/Container	Volume (gallons)	Contents
Area 1		
Tank 1	25,000	Product A – #2 fuel oil
Tank 2	25,000	Product A – #2 fuel oil
Tank 3	25,000	Product B – #5 fuel oil
Tank 4	25,000	Product B – #5 fuel oil
Tank 5	30,000	Product C – Kerosene
Tank 6	30,000	Product C – Kerosene
Main Office Building	2,000	Heating oil
Drum Storage Warehouse		
Up to 30 drums	55 (each)	Various oil products (lubricating oil, engine oil, used oil, etc.)

Date	Number and Type of Container	Contents	Capacity	Location at facility
6/14/05	15 drums	lubrication oil	55 x 15 = 825	Drum storage warehouse
6/14/05	5 drums	engine oil	55 x 5 = 275	Drum storage warehouse
6/14/05	10 drums	used oil	55 x 10 = 550	Drum storage warehouse

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Aquionix **INTEGRITY TESTING**

Operators Must:

- Test/Inspect each aboveground container for integrity on a regular schedule and after repairs
- Determine, in accordance with industry standards
 - The appropriate qualifications of personnel performing tests and inspections
 - Frequency and type of testing and inspections (may take into account container size and configuration)
- API 653 and SP-001 are the most commonly followed industry standards

Only visual inspections are required for certain animal fat/vegetable oil storage containers.

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Aquionix ENVIRONMENTAL EQUIVALENCE

- Found in 112.7(a)(2)
- Enables facilities to achieve environmental protection in a manner that fits their unique circumstances
- Must provide equal level of protection to “navigable waters”
- May not rely solely on other measures required by the rule
- PE must verify that alternative measures are in accordance with good engineering practice
- Reason for deviating and equivalent measures to be used must be described in SPCC Plan
- Applicable to MOST technical requirements, but not secondary containment, training or recordkeeping

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Aquionix ENVIRONMENTAL EQUIVALENCE

Environmental equivalence may be applied to these standards.

Facility Type/Provision	SECTION 112	
	Petroleum Oils and Non-Petroleum Oils	Animal Fats and Vegetable Oils
All regulated facilities	112.7(g)	
Security	112.7(h)(2) and 112.7(h)(3)	
Loading and unloading racks	112.7(i)	
Brittle fracture evaluation	112.7(j)	
Onshore facilities		
Facility drainage/undiked areas	112.8(b), 112.8(b)(1), 112.10(b) and 112.11(b)	112.12(b)
Type of bulk storage container	112.8(c)(1) and 112.9(c)(1)	112.12(c)(1)
Drainage of diked areas	112.8(c)(2)	112.12(c)(2)
Corrosion protection of buried storage tanks	112.8(c)(4) and 112.8(c)(5)	112.12(c)(4) and 112.12(c)(5)
Integrity testing and/or container inspection	112.8(c)(6) and 112.9(c)(2)	112.12(c)(6)
Monitoring internal heating coils	112.8(c)(7)	112.12(c)(7)
Engineering of bulk container installation (coverfill prevention)	112.8(c)(8) and 112.9(c)(4)	112.12(c)(8)
Monitoring treatment/disposal facilities	112.8(c)(9) and 112.9(c)(2)	112.12(c)(9)
Removal of oil in diked areas and production facility drainage	112.8(c)(10)	112.12(c)(10)
Piping	112.8(d), 112.9(d)(1), and 112.9(d)(2)	112.12(d)
Oil drilling and workover facilities		
Facility drainage/undiked areas (rig position)	112.10(b)	N/A
Blowout prevention and well control system	112.10(d)	N/A
Offshore facilities		
Offshore oil drilling and workover facilities	112.11(b) through 112.11(j)	N/A

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Aquionix Questions

Thank you for attending our seminar!



Thurman Cardwell – (303) 289-7520

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