Presented by:
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The P.E.'s Perspective

40 CFR Part 112
Spill Prevention, Control and Countermeasure (SPCC) Plan

Presented by:
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What?

- Rule Dates
- Professional Engineer Certification Review
- Keep it in the container
- Keep it in containment
- Keep it at the Facility
- PERFORMANCE BASED

Dates of Rule Activity

- January 10, 1974 – First Effective Date
- October 22, 1991 – Proposed Amendments
- 1993, 1997…

Dates of Rule Activity

- July 17, 2002 – Final Rule Published
- August 16, 2002 – 1st Effective Date
- February 17, 2003 – 1st Plan Amendment
- August 18, 2003 – 1st Plan Implementation

Dates of Rule Activity

- April 17, 2003 – Extension Published
- August 17, 2004 – 2nd Plan Amendment
- February 18, 2005 – 2nd Plan Implementation

Dates of Rule Activity

- August 11, 2004 – Extension Published
- February 17, 2006 – 3rd Plan Amendment
- August 18, 2006 – 3rd Plan Implementation

Dates of Rule Activity

- February 17, 2006 – Extension Published
- October 31, 2007 – 4th Plan Amendment
- October 31, 2007 – 4th Plan Implementation

Dates of Rule Activity

- December, 2005 – Proposed Revision
- October 2006 – Anticipated Final Revision

Dates of Rule Activity – Target Practice

- 1973 – Originally Proposed
- January 10, 1974 – First Effective Date
- October 22, 1991 – Proposed Amendments
- July 17, 2002 – Final Rule Published
- August 16, 2002 – 1st Effective Date
- February 17, 2003 – 1st Plan Amendment
- August 18, 2003 – 1st Plan Implementation
- April 17, 2003 – Extension Published
- August 17, 2004 – 2nd Plan Amendment
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What's the Point?

- Extensions Necessary and Appreciated.
- Many Operators completed new SPCC Plans along the way.
- Many Operators and many P.E.s are responsible for many Plans.
- Consider the review and certification date when reviewing a Plan.
- Immediate reaction to new interpretations and guidance is not practical.
- Bottom Line → PERFORMANCE BASED

Professional Engineer Certification

By certification, the PE attests that:

1. **He is familiar with the requirements of the SPCC rule;**
2. **He or his agent has visited and examined the facility;**
3. **The Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of the SPCC rule;**
4. **Procedures for required inspections and testing have been established; and**
5. **The Plan is adequate for the facility.**

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Professional Engineer Certification

PERFORMANCE BASED

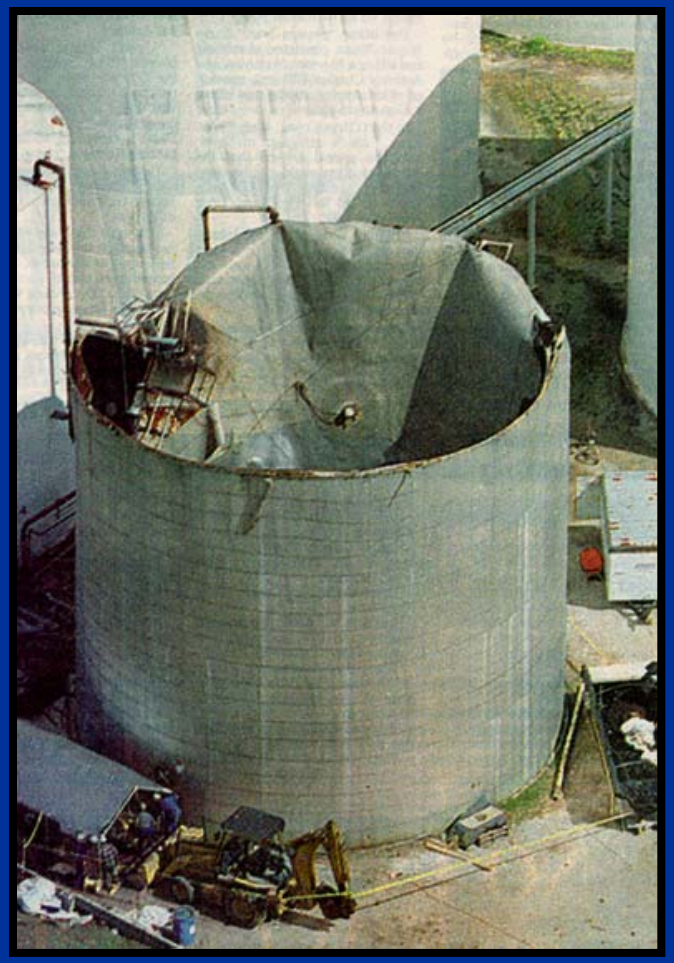
- Keep it in the container
- Keep it in containment
- Keep it at the Facility

Keep it in the Container → Integrity Testing, Inspections

- [112.8] Test each aboveground container for integrity on a regular schedule, and when material repairs are done;
- Take into account container size and design when deciding test frequency and type;
- Must Combine visual inspection with another testing technique (such as hydrostatic, radiographic, ultrasonic, etc.).

Keep it in the Container → Integrity Testing, Inspections

- API 653 (field erected)
- STI SP-001 (shop built)
- API 2350 (overfill protect)
- API 570 (piping)
- NFPA 30
- API 12R1 (E&P)
- Industry Standards+++



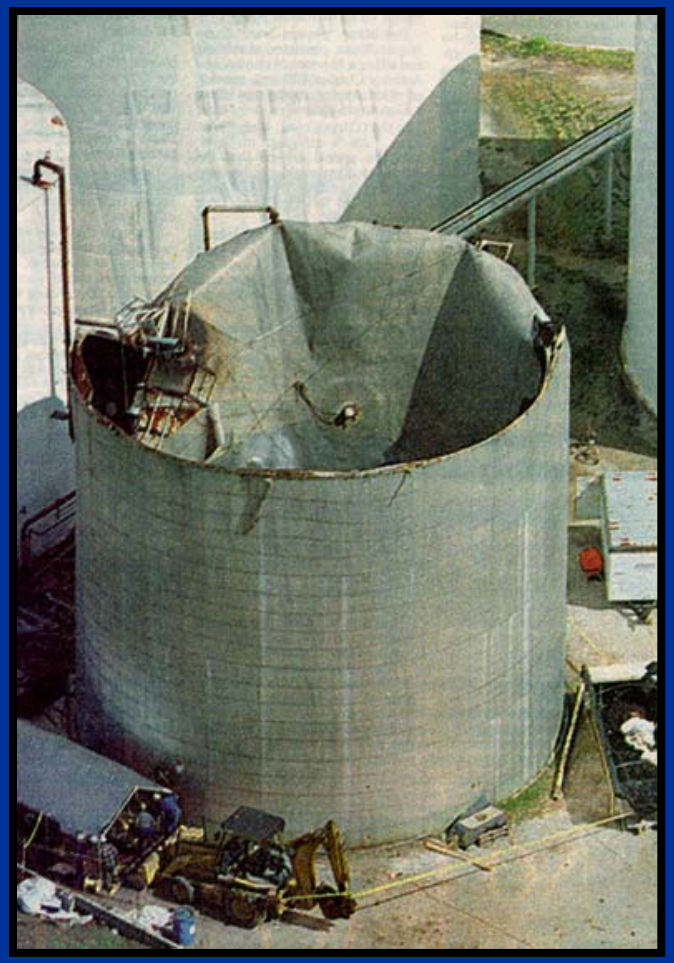
Industry Standards

- Over 100 Standards
- Avg 100 pgs each & 10 external references each
- 10,000 pages and 1,000 additional references
- Adopt your CRITICAL FEW reference standards

Keep it in the Container → Integrity Testing, Inspections

CRITICAL FEW

- API 653 (field erected)
- STI SP-001 (shop built)
- API 2350 (overfill protect)
- API 570 (piping)
- NFPA 30
- API 12R1 (E&P)
- PERFORMANCE BASED



- Keep it in the container
- Keep it in containment
- Keep it at the Facility

Keep it in Containment → Secondary Containment

- How much is enough – the Great Debate
- [112.7] Provide appropriate containment…constructed so that discharge…will not escape before clean up…
- [112.8] …secondary containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation

Keep it in Containment → Secondary Containment

- How much is enough?
- 110%?
- 25 year / 24 hr storm event?
- 1 year / 1/2 hr storm event?

Keep it in Containment → Secondary Containment

- 110% has significant industry support (historical rule of thumb); Utilized as example in D-16; Referenced in EPA Outreach documents; Utilized in many state rules.

- 110% > 25 / 24 ←?→ 110% < 25 / 24

Keep it in Containment → Secondary Containment

- Point →Allowance for Precipitation.
- Both measures are arbitrary;
- Design for the specific application;
- Document assumptions and calculations.
- PERFORMANCE BASED

Keep it in Containment → Secondary Containment

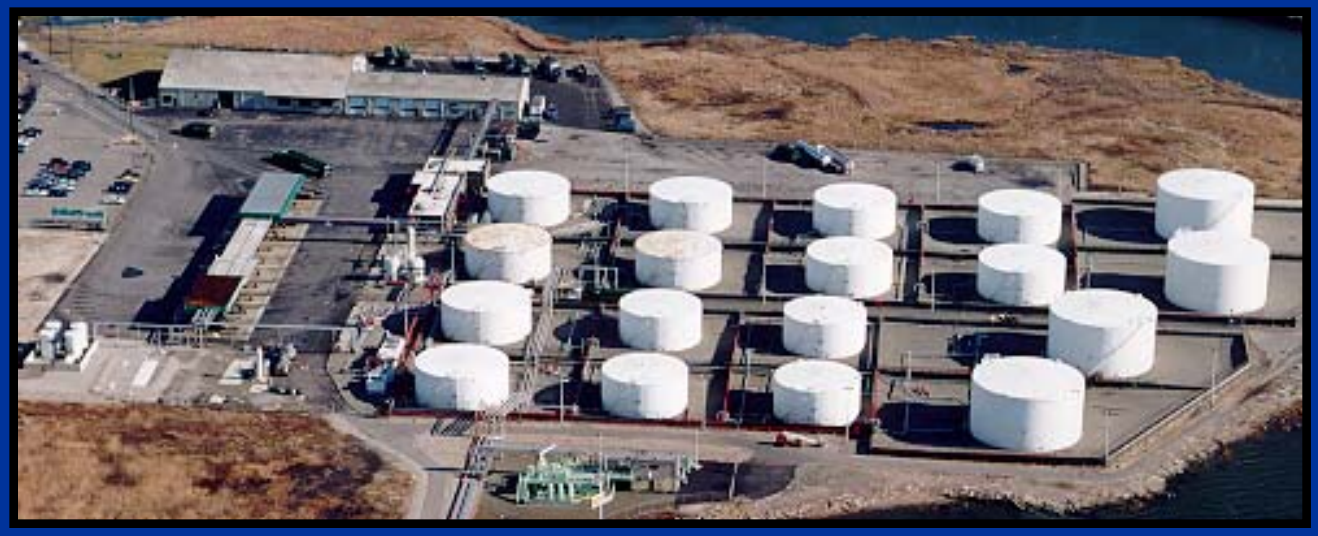
- Pre-1974 Facilities (no rule).
- Pre-2002 Facilities (should).
- Good Engineering Judgment – often involves the study of Probability/Statistics. How many full volume tank releases have occurred simultaneous with 25 year storm events? How many times has 110% been adequate; been inadequate?
- Performance Based

Keep it in Containment → Secondary Containment

- Keep it in the container
- Keep it in containment
- Keep it at the Facility

Keep it at the Facility → Sufficiently Impervious

[112.7] The walls and floor of the containment must be capable of containing oil and must be constructed so that any discharge from a tank or pipe will not escape containment before cleanup occurs.



[112.8] …must ensure that diked areas are sufficiently impervious to contain discharged oil.

Keep it at the Facility → Sufficiently Impervious

- What's the issue? Floor permeability.
- Facilities built upon native soils.
- Permeability may be an issue.
- Pre-1974 Facilities (No Rule).
- Pre-2002 Facilities (Should).

Keep it at the Facility → Sufficiently Impervious

- After the Fact Installation of Liners is not feasible
- Expect and Accept Utilization of Impracticability
- Keep in mind that containment (for SPCC purposes) is to keep product from reaching navigable water until clean up occurs.

Keep it at the Facility → Sufficiently Impervious

- So how do we apply this?

Keep it at the Facility → Sufficiently Impervious

- Draw the Black Box – 2D
- Keep it in the Box – 2D
- Analyze potential 3D conduits
- Tiered Approach
- Utilize Monitoring Wells and Automated Detection

Sufficiently Impervious → Keep it on the Facility

Impracticability

- **Old rule**
  - **When it is not practicable to install secondary containment at a facility, the owner/operator must explain why and provide a strong spill contingency plan (per 40 CFR 109) describing commitment of manpower, equipment, and materials to control and remove any harmful quantity of oil discharged.**
- **Revised rule**
  - **The owner/operator also must conduct periodic integrity testing of the containers; and conduct periodic integrity and leak testing of the valves and piping.**

ReCap

- **PERFORMANCE BASED**
  - **Keep it in the Container**
  - **Keep it in Containment**
  - **Keep it at the Facility**

Observations (EGP's)

- Guidance Doc – great work effort but remember it is Guidance. Rule and SPCC Plans remain Performance Based.

- Applause for the attempt to Standardize across the regions. Uniqueness across regions is understood -- BUT-- compliance with a consistent set of expectations much easier and more effective.

API Update

- Guidance Document -- Substantial comments made, look forward to EPA's acknowledgment and response
- D16 will be revised when EPA finalizes Proposed Rule
- D16 -- would appreciate EPA's review and comments

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Presented by Response Management Associates