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Understanding EPA's Risk Management Program (RMP) Requirements

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Curt Petrosky P.E., CSP

Introductions

Curt Petrosky, P.E., CSP
Managing Consultant
cpetrosky@trinityconsultants.com

Trinity Consultants
Pittsburgh, PA
(724) 935-2611

Learning Objectives

- > Who is covered by EPA's Risk Management Program (RMP)
- > Broad understanding of RMP Requirements
- > RMP Rule Changes

Purpose of RMP

- > To prevent or minimize the consequences of *catastrophic releases* of
 - ❖ Toxic,
 - ❖ Reactive,
 - ❖ Flammable, or
 - ❖ Explosive chemicals
- > Tells you “what to do but not how to do it”



EPA's RMP vs. OSHA's PSM

> RMP (40 CFR Part 68)

- ❖ EPA
- ❖ Protects community
- ❖ Protects general public around facility
- ❖ Protects adjacent facilities such as schools and hospitals
- ❖ Performance based

> PSM (29 CFR1910.119)

- ❖ OSHA
- ❖ Protects workforce
- ❖ Protects contractors
- ❖ Protects visitors
- ❖ Performance based

RMP Applicability

- > Owner or operator of a stationary source
- > Has more than a threshold quantity (TQ) of a regulated substance
- > In a process

...But There are Exemptions

RMP Applicability

- > Owner or operator of a stationary source, CAA sec 112(r)(2)(c)
 - ❖ Any buildings, structures, equipment, installations, or substance emitting stationary activities
- > Has more than a threshold quantity (TQ)
 - ❖ 1% by weight or greater **or**
 - ❖ At or above a chemically-specific concentration listed in Tables 1-4
 - ❖ Partial vapor pressure of the chemical ≥ 10 mm-Hg
 - ◆ Except toluene diisocyanate isomers and oleum
 - ❖ Follow rules for aggregation and mixtures
- > Of a regulated substance
 - ❖ 77 Toxic Compounds - TQs of 500 to 20,000 lbs in a process
 - ❖ 63 Flammable Compounds - TQs of 10,000 lbs in a process
- > In a process - definition on later slide

RMP Toxic Lists & TQ

> Regulated Toxic Substances

- ❖ Tables 1, 2 to 40 CFR 68.130
- ❖ 77 Chemicals
- ❖ A toxic substance is never aggregated with a different toxic substance to determine whether a threshold quantity is present. If a process consists of co-located vessels with different toxic substances, you must determine whether each substance exceeds its threshold quantity.

RMP Flammable Lists & TQ

> Regulated Flammable Substances

- ❖ Tables 3, 4 to 40 CFR 68. 130
- ❖ 63 Flammable Gases and Highly Volatile Liquids
- ❖ A flammable substance in one vessel is never aggregated with a different flammable substance in another vessel to determine whether a threshold quantity is present.
- ❖ If a flammable mixture meets the criteria for NFPA-4 and contains different regulated flammables, the **entire mixture**, not the individual substances, is considered to determine if a threshold quantity is present

RMP Mixture Rule (40 CFR 68.115(b))

- > Regulated toxic substance in a mixture
 - ❖ Exempt if concentration of regulated substance in mixture is <1% by weight in mixture
 - ❖ Partial pressure exemption except for TDI isomers and oleum
 - ❖ If subject, only the weight of the listed toxic is counted towards threshold determination
- > Regulated flammable substance in a mixture
 - ❖ Exempt if concentration of regulated substance in mixture is <1% by weight in mixture
 - ❖ If concentration $\geq 1\%$ by weight, entire weight is treated as regulated substance UNLESS you can demonstrate mixture does not have NFPA flammability rating of 4
 - ❖ NFPA 4 is Flashpoint <73 F & Boiling Point < 100 F @ 14.7 psia

RMP Process & Co-Location

> RMP Process definition [40 CFR 68.3]

“any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances, or combination of these activities. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, shall be considered a single process.”

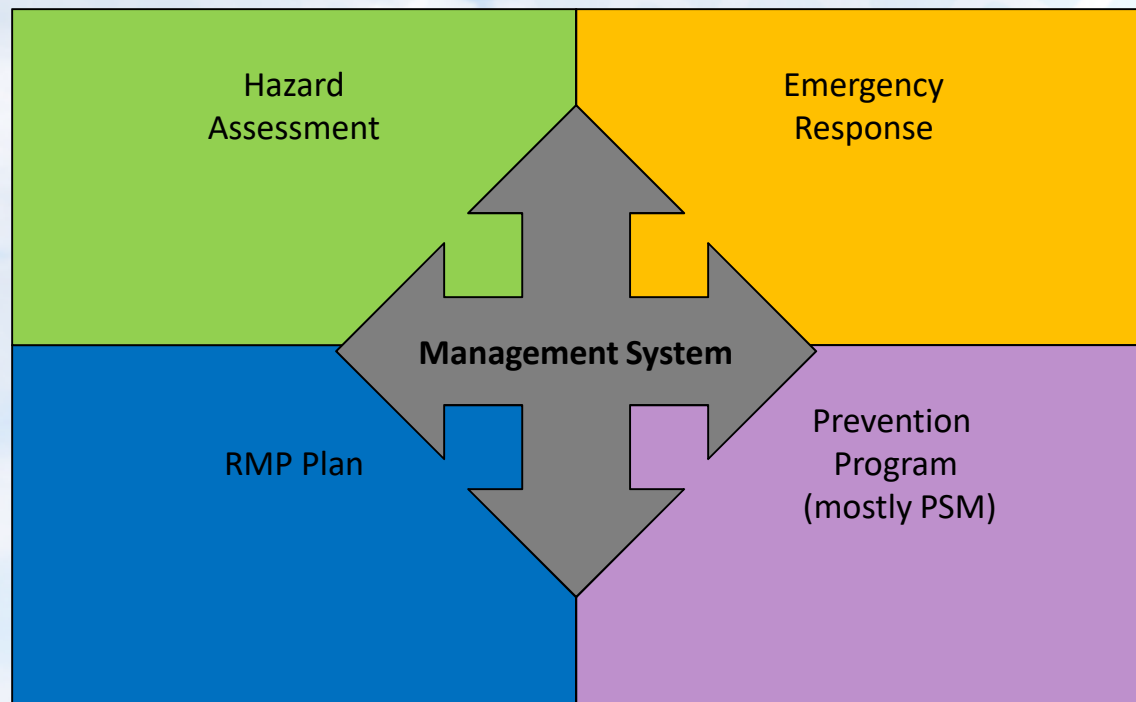
EPA RMP guidance available at

<https://www.epa.gov/rmp/guidance-facilities-risk-management-programs-rmp>

RMP Exemptions

- > The following flammables are exempted from TQ determination:
 - ❖ Naturally occurring hydrocarbon reservoirs [68.115]
 - ◆ Oil and gas fields in natural state
 - ❖ Naturally occurring hydrocarbon transportation subject to DOT [68.115]
 - ❖ Gasoline when in distribution or related storage for use as fuel [68.115(b)]
 - ❖ Fuel used on site or held for sale as a fuel at a retail facility [68.126]
 - ❖ Naturally occurring hydrocarbon mixtures prior to entry to NG processing or petroleum refining process units [68.115(b)]
 - ◆ Condensate, crude oil, field gas, produced water [68.3]
- > Ammonia used as an agricultural nutrient [68.125]
- > Articles and some lab activities [68.115(b)]

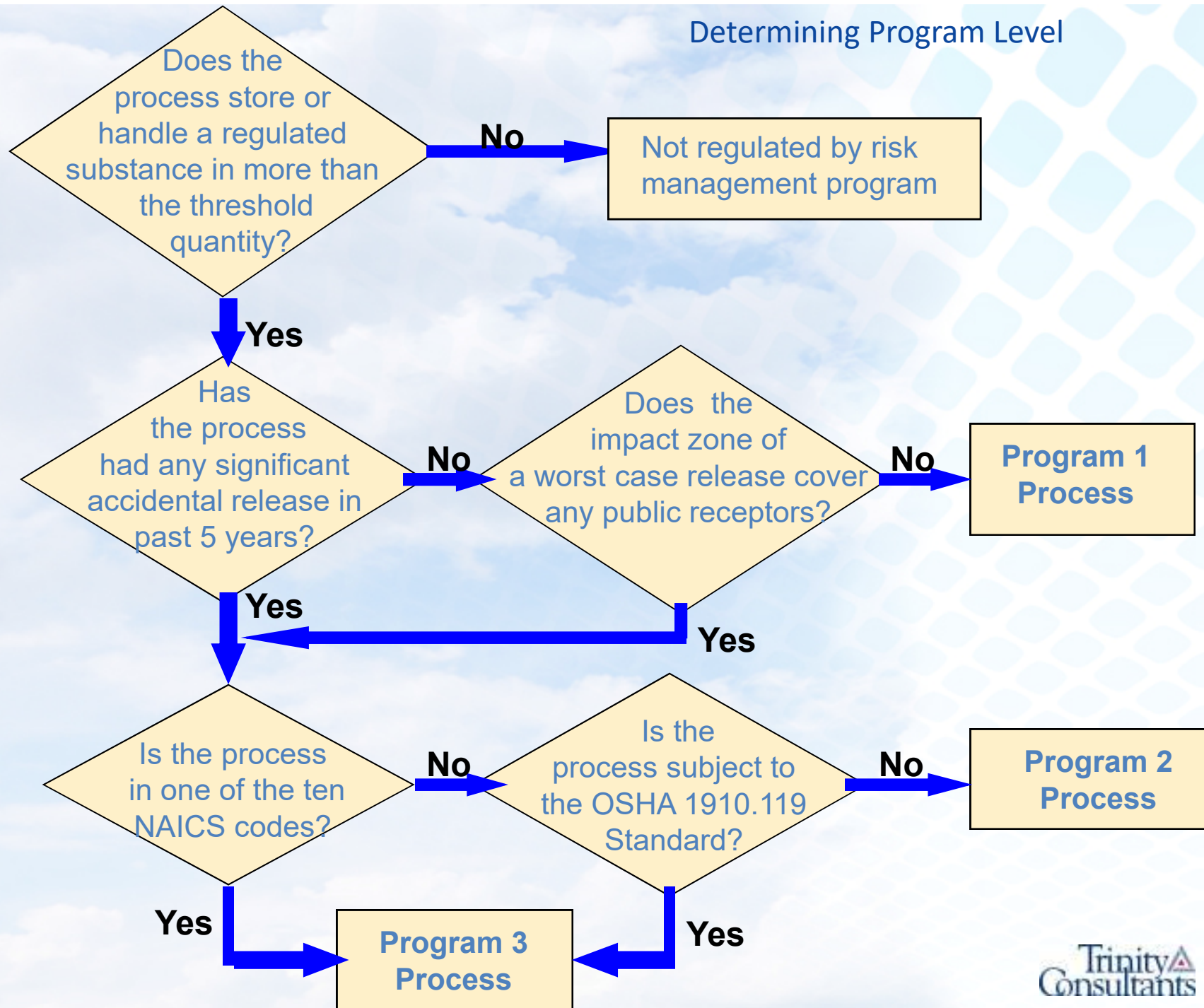
RMP Components



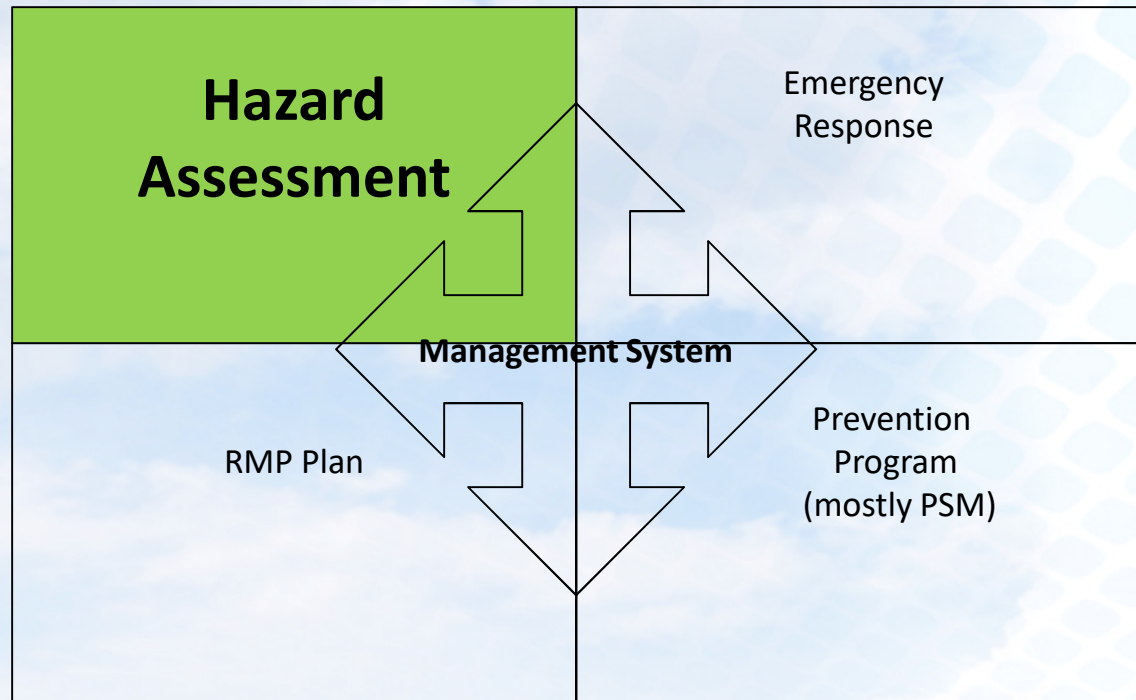
Tiered Approach for RMP

- > EPA developed three tiers of requirements for processes subject to the RMP rule:
 - ❖ Program Level 1: No Impact program
 - ❖ Program Level 2: Streamlined RMP
 - ◆ Worst Case Release Impacts Public
 - ◆ Not subject to OSHA PSM
 - ◆ Not on the list of 10 NAICS Codes
 - ❖ Program Level 3: Full program
 - ◆ Worst Case Release Impacts Public, **AND**
 - ◆ Subject to OSHA PSM or
 - ◆ On the list of 10 NAICS codes
**32211, 32411, 32511, 325181, 325188, 325192, 325199,
325211, 325311, or 32532**

Determining Program Level



RMP Components



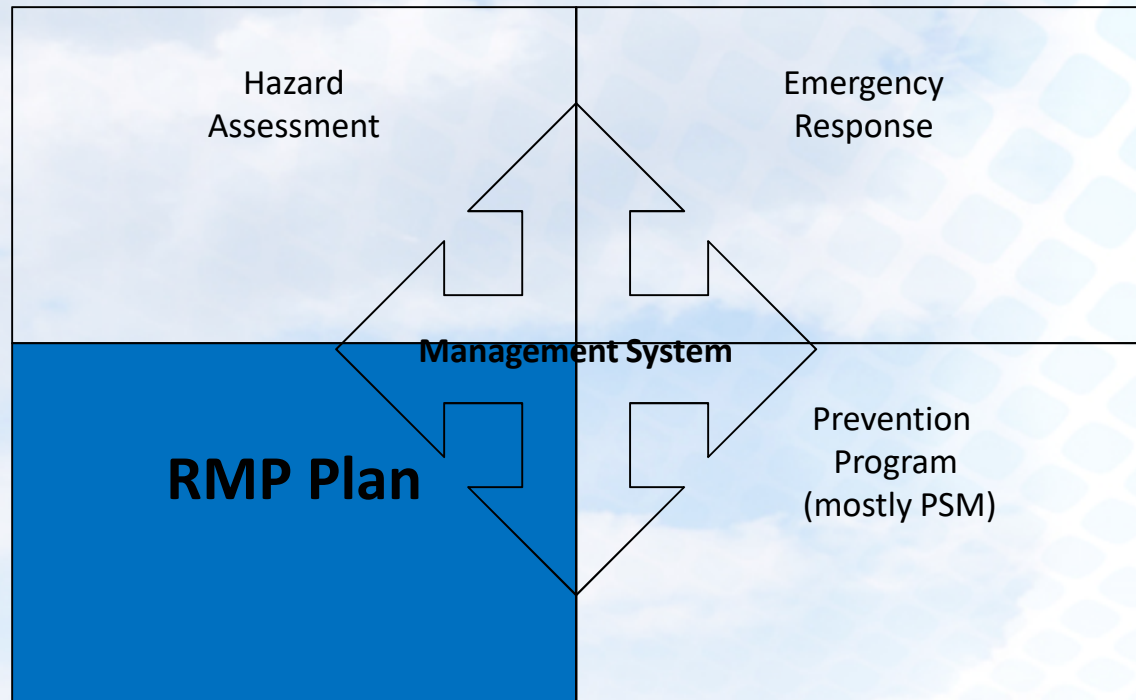
3 Parts of Hazard Assessment

- > Accidental release modeling analysis
 - ❖ Worst-case scenarios
 - ❖ Alternative scenarios (more likely to occur)
- > Off-site consequence analysis (OCA)
 - ❖ Areas beyond the property boundary and within property boundary to which public has routine and unrestricted access
 - ❖ Evaluates impact to receptors (people & environmental)
- > Past five year accidental release history

5-year Accident History

- > Differs from CERCLA or EPCRA reporting criteria
- > Release from covered process and involves regulated substance held above TQ
- > No Reportable Quantity (RQ) threshold
- > Include all accidental releases from covered processes that resulted in
 - ❖ On-site effects - death, injury, significant property damage
 - ❖ Off-site effects - death, injury, evacuation, shelter in place, property damage, environmental damage

RMP Components



Risk Management Program Plans (RMPlan)

- > Facilities are required to submit initial plan per 40 CFR 68.190(b):
 - ❖ Three years after new regulated substance listed
 - ❖ The date on which a regulated substance is first present at quantity above the TQ
- > Plans must be updated at least every 5 years
- > Both the Offsite Consequence Analysis and RMPlan elements must be updated every 5 years
 - ❖ The OCA and RMPlan anniversary date is often in the same year
- > Many facilities have a 2019 anniversary date
 - ❖ Requires full resubmission of the RMPlan

Risk Management Plan Sections

- > Executive summary
- > Worst-case scenario data
- > Alternative release scenario data
- > 5-year accident history
- > Prevention program summary
- > Emergency response program summary
- > Certification by Responsible Official

RMPlan - 5-year Update

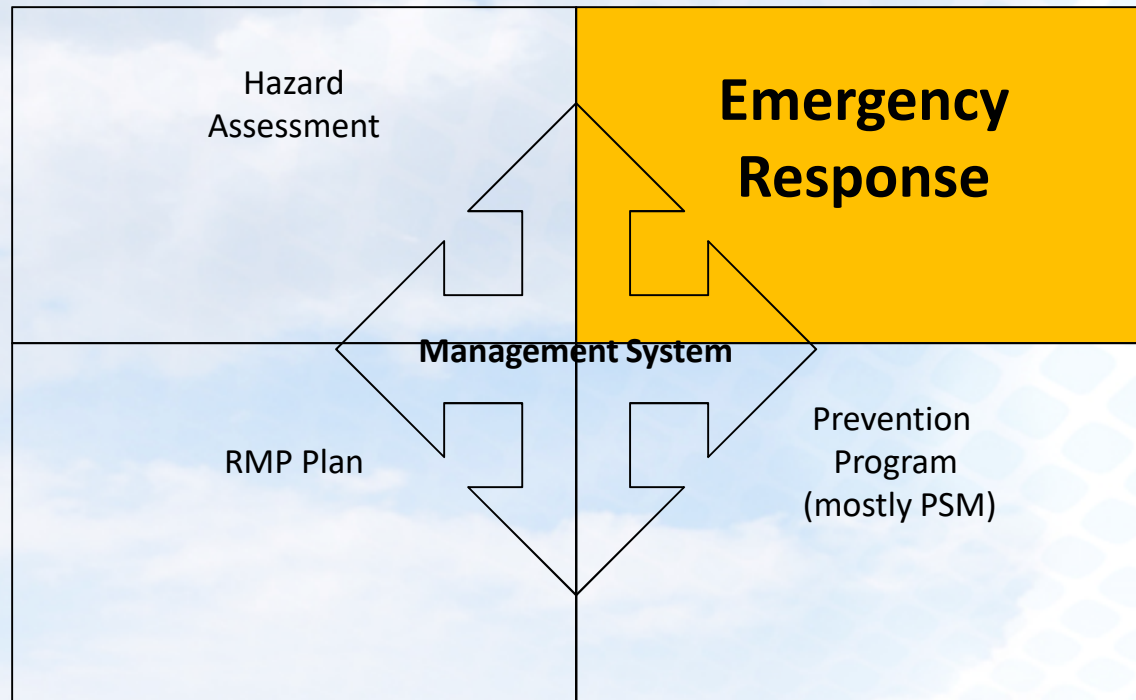
- > 40 CFR 68.190 requires that sources update and re-submit their RMPlans at least every 5 years
 - ❖ Sooner if a specified change occurs as listed in 40 CFR 68.190(b))
- > 5-year update requires review and revision to all RMPlan sections to bring the RMPlan up to date
- > Resubmissions reset the 5 year anniversary date
- > Online certification of updates to RMPlan
- > EPA RMPlan reporting software is RMP*eSubmit

<https://www.epa.gov/rmp/checklist-submitting-your-risk-management-plan-rmp>

RMP Updates Triggered by Site

- > Must *update* the RMPlan within **6 months** of:
 - ❖ A change that requires a PHA or hazard review
 - ❖ A change that requires a revised off-site consequence review
 - ❖ A change that affects the Program Level of a covered process
 - ❖ Updates are done using the Resubmit Button and reset the 5-year anniversary date (must review all 9 sections of the RMPlan an update as appropriate)
- > Must *correct* the RMPlan within **6 months** of:
 - ❖ An accident that meets 5-yr accident history criteria
- > Must *correct* the emergency contact information in RMPlan within **1 month** of the change (name, title, telephone number)
 - ❖ Corrections are done using the Correction button and do not affect the 5-year anniversary date
- > Include name, mailing address, and phone number of any contractor that helped prepare the RMPlan
- > Deregister within **6 months** if no longer subject to RMP

RMP Components



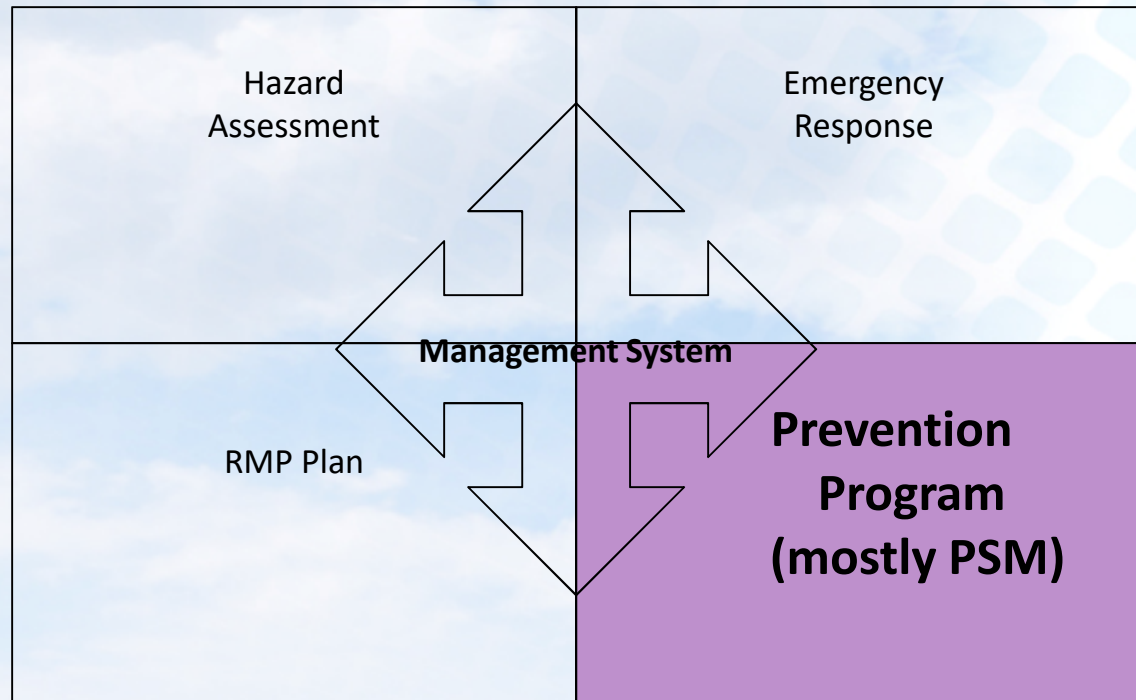
Responding vs. Non-Responding

- > Emergency Response Plan (ERP) is required for Program 2 and 3 sites, **except** when:
 - ❖ Employees will not respond to release of RMP regulated substances
 - ◆ Source is included in community emergency response plan for any toxic substances
 - ◆ Source only has flammable substance above TQ and response coordinated with local fire department
 - ◆ Source has *appropriate mechanisms in place to notify emergency responders when there is a need for a response*
 - ❖ Facilities that meet all these requirements are a *non-responding facility (40 CFR 68.90(b))*
- > Non-responding facilities have an Emergency Action Plan (EAP) that details *notification steps*

Emergency Response Coordination

- > 2017 RMP Rules added section 68.93 - All Level 2 & 3 programs
- > Coordinate with local responders at least annually, to
 - ❖ Ensure local responders are aware of your regulated substances, their quantities & risks, and your response resources & capabilities
 - ❖ Address changes at the source & in source emergency plan
 - ❖ Address changes in local community response plan
 - ❖ Provide copy of source emergency plan and emergency contact info
- > Document coordination activities
- > Applies to non-responding and responding facilities at Level 2 & 3 sites
 - ❖ Level 1 sites already require coordination (68.10(b)(3))
- > Responding sites must coordinate Emergency Exercises schedule
 - ❖ Establish schedules and plans before the March 15, 2021 deadline

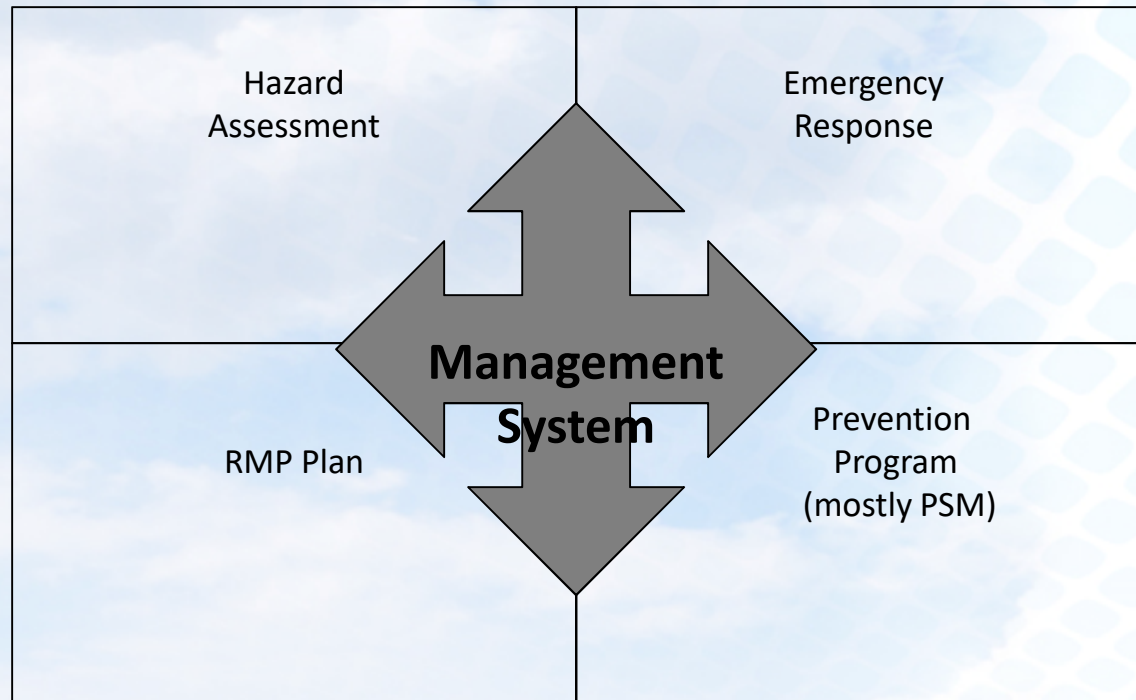
RMP Components



RMP Level 3 - Prevention Program Elements

- > Employee Participation
- > Process Safety Information (PSI)
- > Process Hazard Analysis (PHA)
- > Operating Procedures
- > Training
- > Contractors
- > Pre-Startup Safety Review (PSSR)
- > Mechanical Integrity (MI)
- > Hot Work Permit
- > Management of Change (MOC)
- > Incident Investigation
- > Compliance Audits

RMP Components



Management System

- > Assigns qualified person or position responsible for development, implementation, and integration of RMP elements
- > Names or positions of other responsible individuals and their responsibilities must be clearly identified
- > Lines of authority must be identified (i.e. organizational chart)



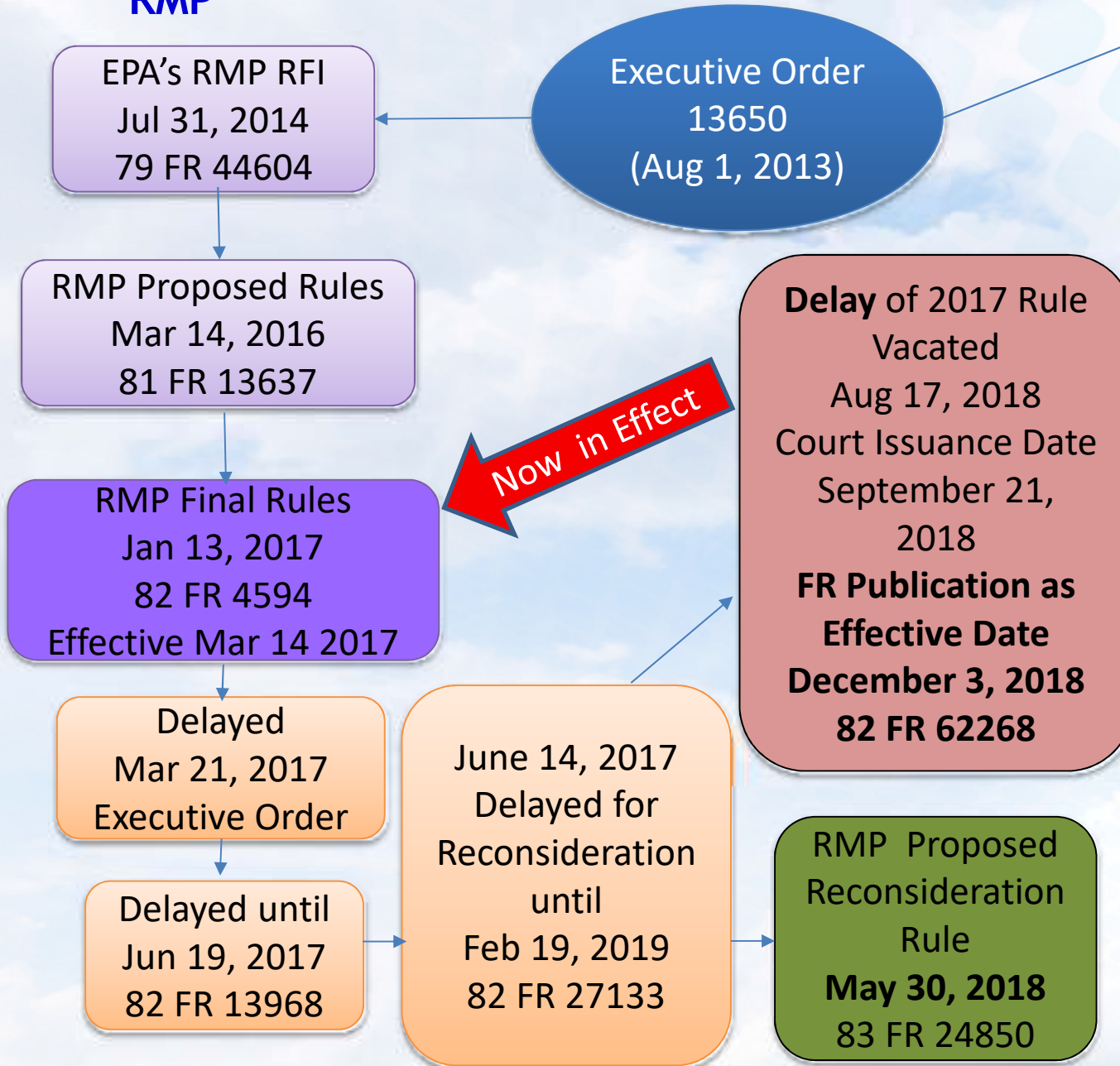
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RMP Rule Updates

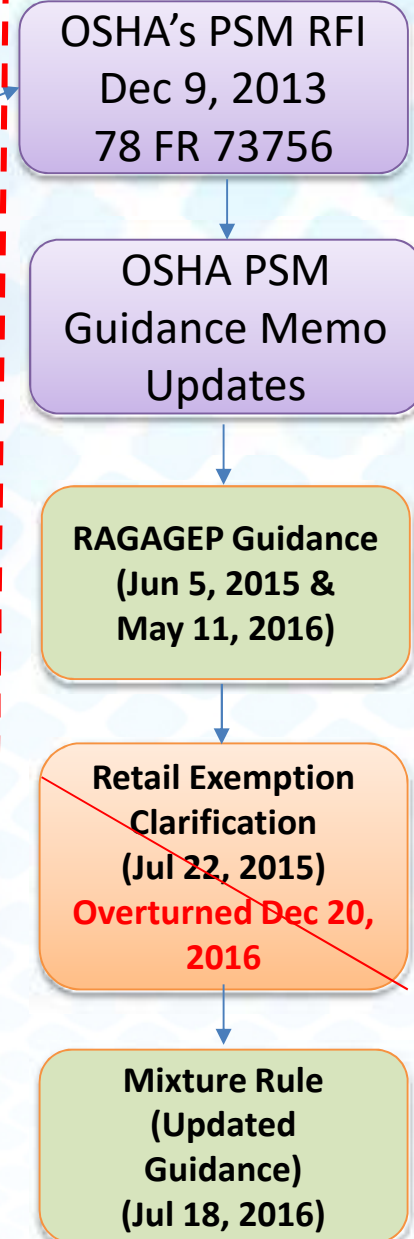
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Rule Revision History

RMP



PSM



Groups of RMP Regulations

Bucket 1 - Rules that apply now and remain in proposed Reconsideration Rule

Bucket 3 – Rules that apply starting March 15, 2021 or later, remain in proposed Reconsideration Rule, and may continuously apply

Bucket 2 – Rules that apply now but are removed in proposed Reconsideration Rule

Bucket 4 - Rules that apply starting March 15, 2021 or later, deleted in proposed Reconsideration Rule, and may not apply continuously.

Bucket 1 & 3 Items - 2017 Final Rule

- > Emergency Response Coordination Activities
 - ❖ Reverts to Final Rule effective date of **March 14, 2018**
 - ❖ **Reconsideration - effective in 1 year**
- > Public meeting after RMP Reportable
 - ❖ Reverts to Final Rule effective date of March 15, 2021
 - ❖ **Reconsideration - effective in 2 years**
- > ER Notification, Field and Tabletop Exercises
 - ❖ Reverts to Final Rule effective date of March 15, 2021
 - ❖ **Reconsideration - effective in 4 years**
- > RMPlan Data Requirements
 - ❖ Reverts to Final Rule effective date of March 15, 2022
 - ❖ **Reconsideration - effective in 5 years**
- > **All of the above are included in the proposed Reconsideration Rule, but their effective dates would be based on FR publication of the final Reconsideration Rule**

Bucket 2 Items - 2017 Final Rule

- > Review Incident Investigation findings in your Hazard Review / PHA
- > Maintain PSI “up-to-date”(no timeframe provided)
- > Determine “supervisor” roles for covered process SOP training (initial & refresher)
- > Ensure incident investigations include near miss and destroyed processes
 - ❖ Include schedule to address recommendations
- > Ensure compliance audits address each covered process (not just a matrix approach)
- > All of the above are effective now but were removed in the proposed Reconsideration Rule

Bucket 4 Items - 2017 Final Rule

- > Third-Party Audit
- > Root Cause Analysis for Incident Investigations
- > Information Sharing with the Public
- > Safer Technologies and Alternatives Analysis
 - ❖ Level 3, NAICS 322, 324, 325 only
- > Effective March 15, 2021 under 2017 Rule
- > All of the above were removed in the proposed Reconsideration Rule

Questions & Discussion

Curt Petrosky, P.E., CSP
(724) 935-2611 (office)
cpetrosky@trinityconsultants.com

Need Additional Training?

Understanding and Application of RMP/PSM Requirements

October 9-10, 2019 – Columbus, OH

March 4-5, 2020 – Phoenix, AZ