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1.0 INTRODUCTION

1.1 Purpose

The purpose of this procedure is to document the applicability and assumptions used to comply with the Environmental Protection Agency (EPA) Risk Management Program Rule (i.e., 40 CFR 68) and to demonstrate Marathon's RMP Management System as required in 68.15. This procedure provides instructions for the Risk Management Program (RMP) as regulated under 40 CFR 68.

1.2 Scope

In June 1996, the federal government's Environment Protection Agency (EPA) published new regulations referred to as the Risk Management Program (RMP) Rule (i.e., 40 CFR 68), which implements certain requirements under the Clean Air Act Amendment of 1990. The purpose of this regulation is to reduce the risk of injury to facility personnel, the public, and the environment from an accidental release of hazardous materials and to develop a dialogue between industry and the community about such potential accidents.

Requirements: Access to PSM/RMP reference materials, spreadsheets, and databases.

2.0 REFERENCES

2.1 Marathon Standards, Policies & Procedures

- PSM-5008 EPA Risk Management Plan
- PSM-95003 RMP Guidance – Threshold Quantity Calculations and Process Interconnectivity
- PSM-1070 Process Safety Management
- RSP-1311 PSM/RMP Emergency Response and Planning

2.2 Government Regulations

- EPA RMP 40 CFR 68 Process Hazard Analysis (The "RMP" Rule)
  - Final Rule June 20, 1996
  - Amendments January 6, 1999 (General)
  - Amendments March 13, 2000 (Fuel at Retail Facilities)
  - Amendments September 2009 (RMP*Submit phase-out and RMP*eSubmit implementation CDX)

2.3 Industry Standards

- Model Risk Management Plan Guidance for Petroleum Refineries, API Publication 760, Third Edition, February 2001.
- CDX (Central Data Exchange) Instructions

3.0 DEFINITIONS

The following definitions are applicable to this procedure.

Table 1 Definitions

Term	Description
Accidental Release	An unanticipated emission of Regulated Substance or other extremely hazardous substance into the ambient air from a Stationary Source.
Alternate Release Scenario (ARS)	An ARS analysis identifies potential reach and effect of hypothetical accidental releases under more realistic circumstances than a Worst-case Release.
Catastrophic Release	A major uncontrolled emission, fire, or explosion, involving one or more highly Regulated Substance that presents imminent and substantial endangerment to public health and environment.
Covered Process	A Process that has a Regulated Substance present in more than a Threshold Quantity as determined under 40 CFR § 68.115.
Environmental Receptor	Natural areas such as national or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, refuges, or areas; and Federal wilderness areas, that could be exposed at any time to toxic concentrations, radiant heat, or overpressure greater than or equal to the endpoints provided in Sec. 68.22(a), as a result of an accidental release and that can be identified on local U. S. Geological Survey maps.
NFPA Flammable 4 Material	A material that is defined by NFPA publication 704. It includes material that will rapidly or completely vaporize or that is readily dispersed in air, and that will burn readily. This includes: • Flammable gases, • Flammable cryogenic materials, • Any liquid or gaseous material that is liquid while under pressure and has a flash point below 73 °F (22.8 °C) and a boiling point below 100 °F (37.8 °C), such as Class IA flammable liquid, and • Materials that will ignite spontaneously when exposed to air.(e.g. pyrophoric materials)
Offsite	Areas beyond the property boundary of the Stationary Source, and areas within the property boundary to which the public has routine and unrestricted access during or outside business hours.
Organization	Businesses within MPC considered entities based on the type of operation/function and/or locale (e.g., Refining, Logistics & Storage, Marketing, MPLX G&P).

Table 1 Definitions

Term	Description
Petroleum Refining Process Unit	A Process Unit used in an establishment primarily engaged in petroleum refining as defined in NAICS code 32411 for petroleum refining (formerly SIC code 2911) and used for the following: • Producing transportation fuels (such as gasoline, diesel fuels, and jet fuels), heating fuels (such as kerosene, fuel gas distillate, and fuel oils), or lubricants, • Separating petroleum, or • Separating, cracking, reacting, or reforming intermediate petroleum streams. • Examples of such units include, but are not limited to, petroleum-based solvent units; alkylation units; catalytic hydrotreating; catalytic hydro-refining; catalytic hydrocracking; catalytic reforming; catalytic cracking; crude distillation; lube oil processing; hydrogen production; isomerization; polymerization; thermal processes; and blending, sweetening, and treating processes. **Note**: Petroleum refining process units include sulfur plants.
Process	An activity involving a highly hazardous chemical (Regulated Substance) including use, storage, manufacturing, handling, or the onsite movement of such chemicals (substances), or combination of these activities. For purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a highly hazardous chemical (Regulated Substance) could be involved in a potential release, shall be considered a single Process.
Process Safety Management (PSM): Process Safety Management following 29 CFR 1910.119.	Process Safety Management following 29 CFR 1910.119.
Public Receptor	Offsite residences, institutions (such as, schools, hospitals), industrial, commercial, and Offsite buildings, parks, or recreational areas inhabited or occupied by the public at any time without restriction by the Stationary Source where members of the public could be exposed to toxic concentrations, radiant heat, or overpressure, as a result of an accidental release.
RMP	The US EPA's Risk Management Regulation for chemical accident prevention, 40 CFR 68.
RMP*eSubmit	On March 13, 2009, EPA provided new software called RMP*eSubmit for facilities to use for online RMP reporting. EPA asks that all facilities use this new method to submit RMPs because it is easy to use, will improve data quality, and will enable you to access your RMP 24 hours a day, 7 days a week.

Table 1 Definitions

Term	Description
RMP Accident	A release of a Regulated Substance held above their threshold quantities from Covered Processes that resulted in: • Death, • Injury (OSHA Recordable), • Significant property damage (in excess of $500,000) onsite, or • Known Offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage.
RMP Report	The written report describing how RMP Site(s) comply with all appropriate RMP Regulations and the document that is submitted to EPA.
RMP Site(s)	MPC facilities which are RMP Regulated
RMP Site Plan	See PSM Site Plan in PSM 1070 Standard Appendix B.
Regulated Substance	Any substance listed pursuant to section 112(r)(3) of the Clean Air Act as amended and listed in 40 CFR §68.130.
Stationary Source	Any buildings, structures, equipment, installations, or substance emitting stationary activities which belong to the same industrial group, which are located on one or more contiguous properties, which are under the control of the same person (or persons under common control), and from which an accidental release may occur. The term Stationary Source does not apply to transportation activities, including storage incident to transportation, of any Regulated Substance or any other extremely hazardous substance. A Stationary Source includes transportation containers used for storage not incident to transportation and transportation containers connected to equipment at a Stationary Source for loading or unloading. Transportation includes, but is not limited to, transportation subject to oversight or regulation under 49 CFR parts 192, 193, or 195, or a state natural gas or hazardous liquid program for which the state has in effect a certification to DOT under 49 U.S.C. section 60105. A Stationary Source does not include naturally occurring hydrocarbon reservoirs. Properties shall not be considered contiguous solely because of a highway, railroad or pipeline right-of-way.
Threshold Quantity	The quantity specified for Regulated Substances pursuant to section 112(r)(5) of the Clean Air Act as amended and listed in 40 CFR §68.130 and determined to be present at a Stationary Source as specified in 40 CFR § 68.115.
Worst-case Release	The release of the largest quantity of a Regulated Substance from a vessel or Process line failure that results in the greatest distance to an endpoint defined in 40 CFR §68.22(a).

4.0 ROLES AND RESPONSIBILITIES

The Marathon Anacortes Refinery has established roles and responsibilities for the development, implementation, and integration of the Risk Management Program (RMP) elements, per requirements specified in 68.15. Below is the table reflecting these roles and responsibilities:

Table 2 Roles and Responsibilities

Role	Responsibility
Certifying Official	RMP Site owners or operators who must certify the accuracy and completeness of the information reported in the RMP. They sign and submit a one-time Electronic Signature Agreement (ESA) to the EPA. The ESA legally binds the Certifier's electronic submission to their signature. Only Certifiers can submit the RMP. Required to designate a preparer for the RMP Report and Site Plan. Anacortes Marathon Refinery designates the refinery General Manager in this role.
Preparers	A designated person that has been granted authority by a site to access the site's existing RMP. Prepare data for new or updated RMP. **Note**: An RMP Site can have only one designated Preparer, however an individual Preparer can prepare RMPs for multiple facilities. Anacortes Marathon Refinery designates the refinery RMP/PSM Coordinator in this role
(Process)Safety Supervisor	Responsible for assembling PSM/RMP deviation information outlined in section 19 below and providing it to the Environmental personnel in a timely manner.
Environmental Supervisor	Responsible to request the PSM/RMP deviation information from the PSM personnel in advance of the Title V submission, and for incorporating deviation information into the submission. In addition, meets reporting requirements when notified of PSM/RMP deviations outlined in section 19 below.

The following are examples of how Marathon Anacortes Refinery ensures on-going compliance with the RMP Program:

- On-site coordinators manage RMP, PSM and Emergency Response Programs
- RMP is incorporated into the PSM Program
- A Management System which tracks compliance dates flags RMP Coordinator every six months to determine if an RMP update or correction is needed. Accidental releases are assessed on an on-going basis to determine if a release meets the RMP five-year accident history definition.
- RMP Coordinator updates the RMP within 1 month of a change in emergency contact information.
- Major projects are carefully examined to assess changes to the existing RMP Program.
- RMP information is available on the Anacortes Process Safety Management SharePoint site.

5.0 APPLICABILITY

The RMP Rule regulates both toxic and flammable substances. Attachments 2 and 3 are listings of these substances. The substances in bold print are those found at the Marathon Anacortes Refinery and have a potential to be present at > 1 wt%. Each process has been evaluated to determine if the inventory of regulated substances exceeds the RMP threshold quantity (TQ). If exceeded, then the process must meet the applicable regulatory requirements of the RMP rule.

Prior to filing the initial RMP plan, the site determined the applicability of all refinery process equipment for both toxic and flammable materials basis the TQ of each chemical found in the covered processes. All refinery equipment meeting or exceeding these TQs was input into respective flammable and toxic inventory excel spreadsheets for tracking and quantification.

Since this process was completed, increases or reductions in the toxic and flammable inventories have been monitored via the MOC process, additions, modifications or deletions of processing units, etc. The toxic and flammable inventories have been adjusted basis these changes and the RMP plan has been amended when required. These inventory spreadsheets are maintained by the Technical Services group and are named below.

- RMP Flammable Inventory
- RMP Toxic Inventory

6.0 TOXIC SUBSTANCES

The Marathon Anacortes Refinery does not have any RMP regulated toxic substances stored above the threshold quantity (TQ). An analysis is presented below detailing the specific applicable exemptions and inventory assessment.

6.1 Exemptions

The following refinery streams are exempt from the inventory assessment:

- The toxic substance is present at < 1 wt%
- Crude oil storage prior to processing
- H_2S absorbed in amine streams (Note 1)

Note 1: The H_2S absorbed by the amine stream is no longer molecular H_2S, but rather forms an acid-base salt complex. The acid-base salt complex is not included in the TQ determination for H_2S. Refer to Model Risk Management Plan Guidance for Petroleum Refineries – API Publication 760 Third Edition, February 2001, section 2.3.

6.2 Inventory Assessment

Hydrogen Sulfide: (TQ = 10,000 pounds) H_2S is contained in many Marathon Anacortes Refinery process streams, but most streams contain H_2S below 1 wt%. Only a few process streams contain H_2S above 1 wt%, and even then, the quantity (pounds) is very low due to the gaseous state and relatively low pressure. Refer to Note 1 above.

Table 3 H_2S Inventory

Unit Name	Inventory (pounds)	Threshold (pounds)	Exemption
Alkylation / BI Unit	~ 0	10000	H_2S treated upstream – not present
Catalytic Cracking Unit (All CCU +SWS)	6288	10000	
CFH/DHT	820	10000	
CR/NHT/CGS/SHU/BSU	0.2	10000	
Crude Unit/Vacuum Flasher	516	10000	
Flare	9	10000	

Table 3 H_2S Inventory

Unit Name	Inventory (pounds)	Threshold (pounds)	Exemption
Volatiles Handling	4	10000	
ROSE	911	10000	

Ammonia: (Anhydrous TQ = 10,000 pounds) (Aqueous 20% or greater, TQ = 20,000 pounds) Marathon Anacortes Refinery uses and stores 19 wt% aqueous ammonia. This concentration of aqueous ammonia is not regulated by the RMP Rule. Marathon no longer stores anhydrous ammonia above the threshold quantity.

Methyl Mercaptan: (TQ = 10,000 pounds) The Marathon Anacortes Refinery has streams that contain methyl mercaptan but are estimated to be < 1 wt%.

Carbon Disulfide: (TQ = 20,000 pounds) The Marathon Anacortes Refinery does not maintain any physical inventories of this material. It is present in the refinery as a combustion byproduct (furnaces), but not in any significant volumes.

Nickel Carbonyl: (TQ = 1,000 pounds) The Marathon Anacortes Refinery does not maintain any physical inventories of this material. It is present in the refinery as a combustion byproduct (furnaces), but not in any significant volumes.

7.0 FLAMMABLE SUBSTANCES

The Marathon Anacortes Refinery has several processes that store RMP flammable substances above the threshold quantity. When evaluating the inventory, the following rules and exemptions were applied:

7.1 Exemptions

The following Marathon Anacortes Refinery streams are exempt from the inventory assessment:

- The flammable mixture contains less than 1 wt% of a regulated substance
- Gasoline ready for use in internal combustion engines (i.e. finished gasoline)
- Crude oil storage prior to processing
- D86 20% point > 100 0F (see note below)
    - All stored gasoline components, except LTSR
    - Jet
    - Diesel
    - Gas oils
    - Fuel oils
    - Decant
    - Asphalt

Note: The flammable mixture is exempt if it does not meet the definition of NFPA 4 flammables. NFPA 4 flammables include the following:

- Flammable gases
- Flammable cryogenic materials
- Any liquid or gaseous material that is liquid while under pressure and has a flash point below 73° F and a boiling point below 100° F,
- Material that will spontaneously ignite when exposed to air.

Boiling point is defined by the D86 20% evaporation point. Therefore, if the D86 20% point is greater than 100° F, the stream is exempt.

7.2 Inventory Assessment

If the flammable mixture is not exempt, then the entire weight of the flammable mixture must be included in the inventory assessment. Marathon Anacortes Refinery assumed the vessel to be completely full regardless of normal working volume. This overstates the inventory but ensures continuous compliance with the rule.

A database, managed by The Technical Services group and archived by the PSM/RMP Coordinator, was used to assess, and store the inventory data. The data in the table below was updated on 03/21/2021 for the 5-year anniversary update of the RMP. This information is updated and kept current and accurate by the RMP Coordinator, if flammable inventories change as a result of MOC and/or projects.

Table 4 Inventory Table

Unit #	Unit Name	Flammable Mixture Inventory (pounds)
1	Alkylation / BI Unit	12,437,891
2	Catalytic Cracking Unit	3,228,819
3	CFH/DHT	1,810,590
4	CR/NHT/CGS/SHU/BSU	3,481,601
5	Crude Unit/Vacuum Flasher	1,883,490
6	Flare	368,651
7	Volatiles Handling	73,449,917
8	ROSE	666,092
Total	**Total Flammable Inventory**	**76,588,587**

In the RMP Plan, for each covered process the total quantity of the flammable mixture is reported. Additionally, each listed flammable substance present at > 1 wt% (see Attachment 3) is listed, but not quantified. The RMP supporting documentation provides a list of flammable substances that are present in each of the RMP process units.

7.3 Program Level – Program 3

The RMP Rule requires facilities to assign covered processes to one of three RMP Program levels. Marathon Anacortes Refinery has assigned all the covered processes to Program 3, the level with the most regulatory requirements and which most closely mirrors Marathon Anacortes Refinery's existing OSHA PSM Program.

8.0 HAZARD ASSESSMENT

The RMP regulation requires the Marathon Anacortes Refinery to conduct a hazard assessment, which consists of an evaluation of the flammable and toxic substances present at the Marathon Anacortes Refinery and describes how these substances might impact the public and environment should they be accidentally released.

8.1 Flammable Accidental Release Scenarios

The RMP Rule requires covered facilities to conduct an Off-Site Consequences Analysis (OCA). The analysis includes a review of the worst-case scenario as defined in the RMP Rule, and an alternative release scenario.

8.2 Worst Case Scenario

The worst-case scenario, as mandated by the EPA, is the potential total release of the 6.8 million pounds of a flammable mixture, mostly butane material from TK-230. The analysis concludes that the 1-psi endpoint extends 1.5 miles. See Attachment 4 for further explanation. The worst-case scenario impact radius is 1.5 miles. There is a potential impact to 33 public receptors in 18 housing units.

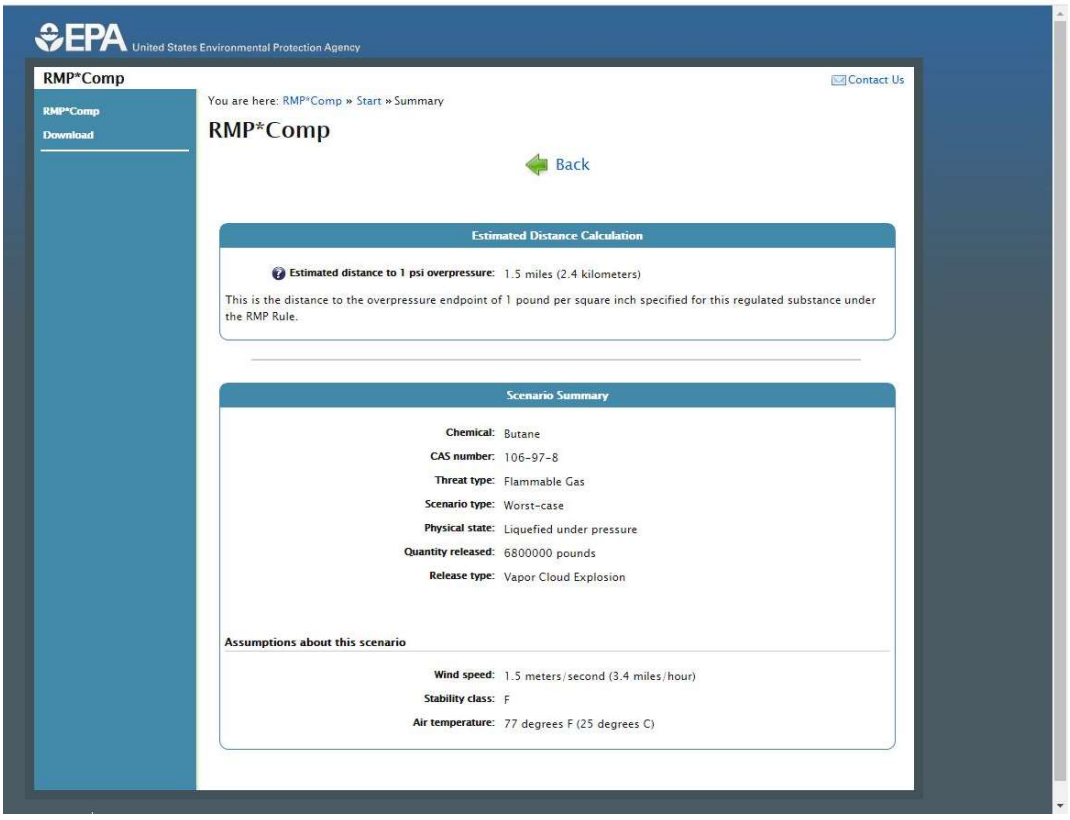

Figure 1 RMP WCS Model (Scenario details using EPA's RMPComp)

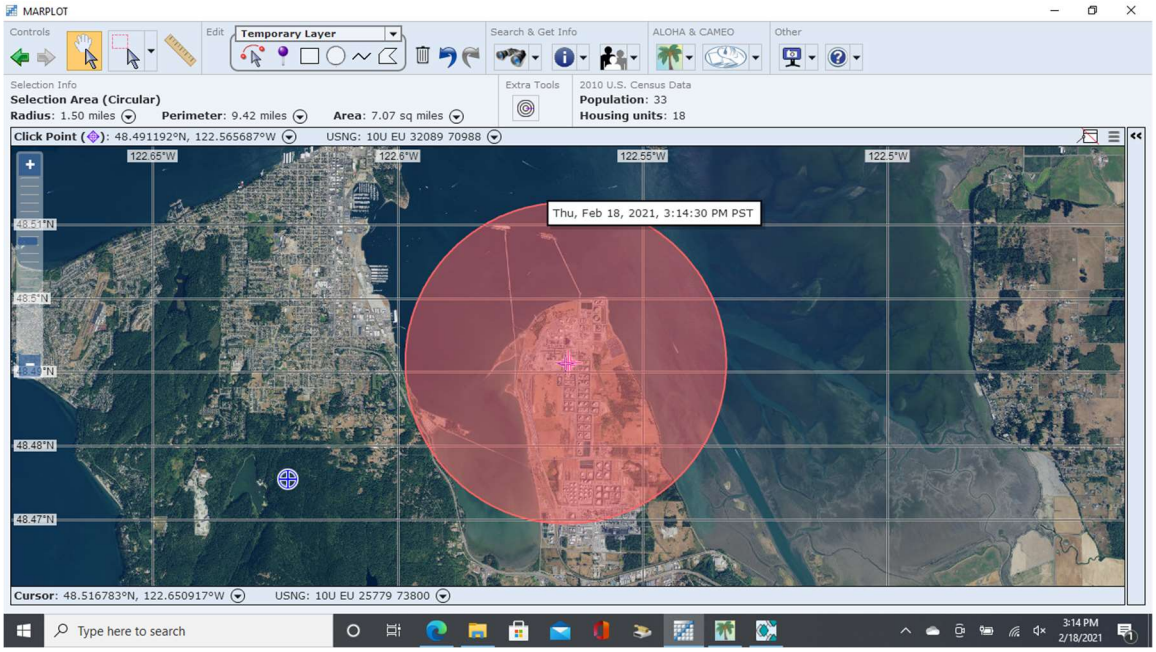

Figure 2 RMP WCS Model (Details of impact zone using EPA's MARPLOT)

8.3 Alternative Release Scenario

The alternative release scenario selected for RMP reporting is a potential "Butane Release from a Rail Car." It is assumed that 150,000 pounds of a flammable mixture, mostly butane material is released, resulting in an explosion with a 1-psi endpoint extending .41 miles. See Attachment 4 for more explanation. The alternative case scenario impact radius is 0.41 miles. There is a potential impact to 0 public receptors in 0 housing units.

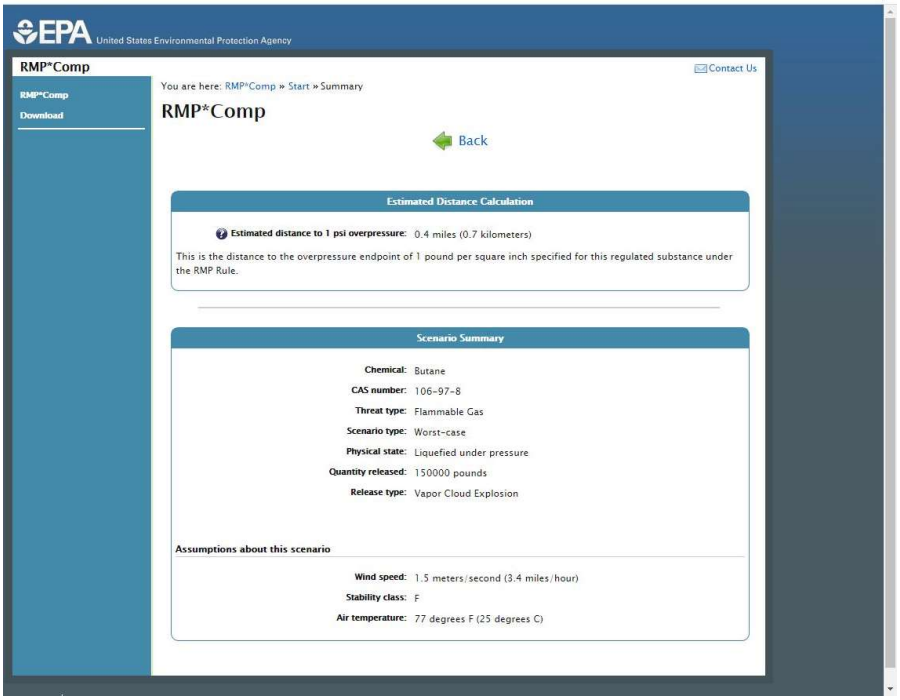

Figure 3 RMP ARS Model (Scenario details using EPA's RMPComp)

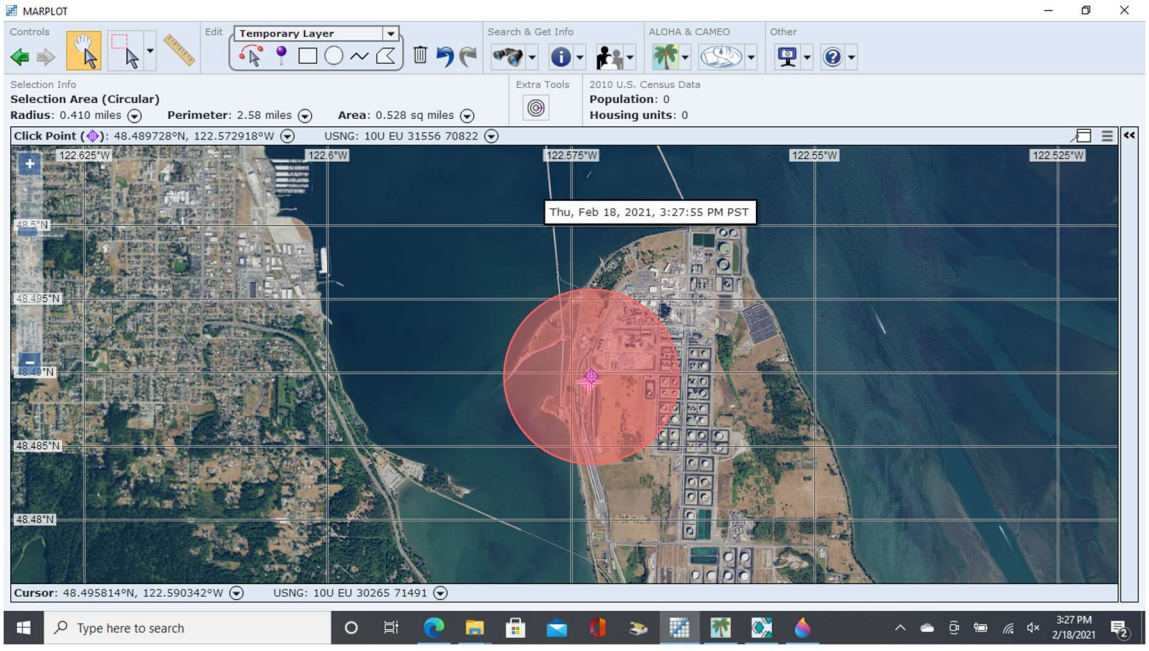

Figure 4 RMP ARS Model (Details of impact zone using EPA's MARPLOT)

8.4 Toxic Substances

The Marathon Anacortes Refinery does not have any RMP regulated toxic substances stored above the threshold quantity. However, Marathon Anacortes Refinery elected to model certain toxic release scenarios to determine the potential impact on the public and environment. Attachment 4 provides more explanation about this analysis and Attachment 2 lists the RMP regulated toxic substances.

9.0 FIVE-YEAR ACCIDENT HISTORY

No release that meets the definition presented in the RMP Rule (i.e. 68.42 five-year accident history) has occurred in the 5-year period from 2016-present

Marathon applies the criteria listed below to determine if a release is RMP reportable. The release must be from a covered process and involve a regulated substance held above its threshold quantity in the process.

Table 5 List of RMP Regulated Processes

Unit #	Unit Name
1	Alkylation / BI Unit
2	Catalytic Cracking Unit
3	CFH/DHT
4	CR/NHT/CGS/SHU/BSU
5	Crude Unit/Vacuum Flasher
6	Flare
7	Volatiles Handling (Tank Farm spheres, bullets and Alky/BI spheres)
8	ROSE

9.1 List of RMP Regulated Substances

Flammable material (LTSR (light straight run gasoline) and lighter):

- Hydrogen
- Refinery Fuel Gas
- Natural Gas
- Propane/Butane/Isobutane
- Alky Olefin Feed
- LTSR
- Crude (after it enters the crude unit)
- Potentially Gasoline (meets the NFPA 4 flammable criteria, (20% distillation > 100 F))

9.2 List of Substances not regulated under RMP

- Most Gasoline Components (20% distillation > 100 F)
- Examples: XLC, LCC, Alkylate, Reformate

- All Finished Gasoline
- Crude Oil in Tankage (upstream of processing)
- Jet
- Diesel
- Gas Oils
- Fuel Oils
- Asphalt
- Hydrogen Sulfide
- Chemicals (Caustic Soda, Sulfuric Acid, PERC, Aqueous Ammonia, Chlorine, MDEA, Other chemicals)

The release must have resulted in one of the following consequences:

- On-Site Consequences:
  - A release of a Regulated Substance held above their threshold quantities from Covered Processes that resulted in:
  - Death,
  - Injury (OSHA Recordable),
  - Significant property damage (in excess of $500,000) onsite, or Known Offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage.
- Off-Site Consequences:
  - Deaths
  - Injuries
  - Evacuations
  - Sheltering-in-Place
  - Environmental Damage
  - Fish or Animal Kills
  - Lawn, Shrub, or Crop Damage
  - Water Contamination (See note below)

Note: Water contamination is defined as contamination that has been deemed by Marathon Anacortes Refinery, or a governing agency, to have resulted in environmental damage. This does not include minor spills to the bay or NPDES exceedences.

If there is a release that fulfills the criteria above, then the release may be RMP reportable. The Marathon Anacortes Refinery has a system in place which tracks releases and injuries and assesses if the release is reportable under the RMP Rule. If the release is RMP reportable, the RMP is updated within 6-months of the release.

10.0 PREVENTION PROGRAM (PROGRAM 3)

The EPA RMP Prevention Program 3 closely resembles the OSHA PSM Standard (i.e. 29CFR1910.119). The RMP Rule uses 12 of the 14 PSM elements in the regulation with the requirements being identical, except the RMP Rule requires facilities to consider public and environmental safety, in addition to the OSHA PSM requirement that emphasizes worker safety. The Marathon Anacortes Refinery utilizes its existing PSM program to meet the Prevention Program requirements set forth in the EPA RMP Rule, 40 CFR 68, Subpart D. To ensure compliance with both RMP and PSM, Marathon Anacortes Refinery has reviewed and incorporated the potential off-site considerations throughout the existing PSM Program. Attachment 5 provides a cross-reference between the PSM and RMP regulations.

11.0 EMERGENCY RESPONSE PROGRAM

The EPA RMP requires facilities to develop and implement an Emergency Response Program for the purpose of protecting public health and the environment. See Attachment 1 Emergency Response Program Compliance Summary for a list of RMP Emergency Response Program requirements and the method whereby Marathon Anacortes Refinery meets these requirements.

12.0 RECORDKEEPING

Documentation supporting the RMP Plan must be maintained at least five years after the submission of the most recent RMP submittal. RMP Plan submittals and support documentation are retained by the RMP Coordinator.

13.0 COMMUNICATION

An overview was published in May 1999 summarizing the Marathon Anacortes Refinery Risk Management Program. The overview included an explanation of the Off-Site Consequence Analysis (OCA) and was distributed to the public in June 1999 and January 2000 via public meetings and events. Attachment 4 contains a copy of the text.

14.0 UPDATING AND CORRECTING THE RMP PLAN

The RMP Plan must be updated:

- No later than every 5 years
- No later than 3 years after EPA lists a new substance
- No later than the date a new process becomes covered
- No later than the date the regulated substance inventory in an existing process exceeds the TQ of a regulated substance
- Within 6 months of a change that requires a revised PHA or hazard review

Comment: This facility updates the RMP within 6 months of a significant change in a covered process. Significant change is defined as a major addition of equipment or change in process which affects an RMP regulated substance. PHA Revalidations do not normally initiate a significant change.

- Within 6 months of a change that requires a revised Off-Site Consequence Analysis
- Within 6 months of a change that alters the program level for a process

- Within 6 months if the facility is no longer covered by the RMP Rule

The RMP Plan must be corrected:

- Within 6 months of an accidental release meeting the five-year accident history reporting criteria
- Within 1 month of any change in emergency contact information

The RMP Preparer tracks and initiates corrections to the RMP plan and/or the 5-year anniversary re-filing of the plan.

The preparer collaborates with refinery SMEs and coordinates required changes per the requirements in this section. The preparer then updates a draft copy of the RMP in the EPAs CDX program. Once the corrections have been identified and drafted, the preparer informs the certifying official (Anacortes Marathon Refinery designates the Refinery General Manager in this role) of the proposed changes to the plan. The plan certifier may require changes to the proposed corrections and the preparer modifies the changes as necessary to meet the certifying official's requirements.

Once agreement is confirmed that the corrections are appropriate, the preparer uploads (submits) the draft corrections into CDX. The preparer and certifying official then receive an auto-generated email from the CDX program, informing that there is a draft plan update that must be certified.

The certifying official will review the plan corrections and approve or certify the amended plan.

15.0 CERTIFICATION

The owner or operator or a senior official with management responsibility for the person or persons who have completed the RMP must certify plan updates through CDX once the preparer submits updated RMP documentation through CDX. Anacortes Marathon Refinery designates the refinery General Manager in this role).

16.0 TRAINING

Training for the RMP certifier and preparer roles is accomplished initial upon assignment by full review of PS02 (this document). Focus on the role of the preparation and certification process flow, found in section 12, is essential to maintain an up-to-date plan.

The following are training requirements related to the roles and responsibilities of personnel involved in RMP activities.

Role	Requirement
RMP Certifying Official	Knowledge on certifying requirements.
RMP Report/Plan Preparer	Knowledge related to PSM site programs and procedures, Knowledge on RMP*eSubmit, and Knowledge of RMP requirements or training from a contracted or MPC training sources.
RMP Site Staff	Refer to PSM-1070 for training for other affected employees, as necessary.

The following are training requirements related for all other site personnel.

The PSM/RMP System Overview course was replaced with the following two courses in 2021, and their LMS information is listed below:

- REF Process Safety Management Overview (101) ITEM_REF_09OSHPSM101
  - Terminal Objective: Upon completion of this training the participant will be able to:
    - Explain the principles of process safety.
    - Know the OSHA PSM and EPA RMP elements and recognize the element requirements.
    - Identify key inter-relationships between PSM/RMP elements.
    - Recognize the major differences between personal safety and process safety.
  - Learning Objectives
    - Understand the basic process safety principles and apply the principles in safety decision making.
    - Identify the 14 PSM elements and recognize some of the requirements of the elements.
    - Understand the principles associated with each PSM element.
    - Understand how the 14 PSM elements work together.
- MPC WBT Process Safety Management (Praxis) ITEM_MPC_00OSHPSM040
  - This web-based training module is designed to raise awareness of Process Safety Management for Marathon employees with responsibilities directly related to the daily operation of a PSM regulated facility and for those employees that support PSM facilities at various levels in the corporation. The module includes an overview of Process Safety Management (PSM), and individual segments dealing with the fourteen elements that constitute PSM. After completing all module sections, you'll need to take the final test to receive credit in your training record.
  - After completing the web-based training module, you should be able to:
    - State the purpose of Process Safety Management (PSM).
    - Identify the elements (14) of PSM.
    - Recognize examples of PSM efforts in the organization.
    - Draw relationships between process safety management expectations and what you do at work.
    - Demonstrate an understanding of the importance of PSM as a widespread effort shared among employees and contractors.

17.0 REVIEW AND REVISION HISTORY

Revision #	Preparer	Date	Description
0	Mark Willand	4/17/2022	Reformatted and Numbered per Document Control Policy, R-63-001.

18.0 ATTACHMENT 1 – EMERGENCY RESPONSE PROGRAM COMPLIANCE SUMMARY

RMP Regulatory Language Subpart E – Emergency Response 68.95 Emergency Response Program	Marathon Anacortes Refinery Method of Compliance
(a) (1) (i) Procedures for informing the public and local emergency response agencies about accidental releases	R-13-027 Reporting of Environmental Incidents R-13-028 Oil Spill Identification & Reporting EP-04 Spill Prevention Control & Countermeasure Plan (SPCC) R-13-024 RCRA Contingency Plan Marathon Anacortes Emergency Response Manual (ERM) Section 7.0 related to Emergency Communications, Notification Callout & Immediate Response Procedures
(T) (1) (ii) Documentation of proper first-aid and emergency medical treatment necessary to treat accidental human exposures	R-11-006 Injury Management & Reporting. Marathon Emergency Response Manual (ERM) Section 28 related to Injuries/Mass Casualty Injuries/Blood Borne Pathogens R-11-019 HAZCOM/SDS
(a) (1) (iii) Procedures and measures for emergency response after an accidental release of a regulated substance	Marathon Emergency Response Manual (ERM) Section 7; 11; 12; 13; 16; 22; 26 EP-04 Spill Prevention Control & Countermeasure Plan (SPCC) R-13-024 RCRA Contingency Plan
(a) (2) Procedures for the use of emergency response equipment and for its inspection, testing, and maintenance	ERM Section 26; SAP & Excel Checklists for Inspections, Testing, and Maintenance on our Emergency Response Equipment EP-04 Spill Prevention Control & Countermeasure Plan (SPCC) R-13-024 RCRA Contingency Plan
(a) (3) Training for all employees in relevant procedures	ERM Training (annually) ERT Training (monthly) ESS Annual Training (annually) RSP-1311 Training (annually) EP-04 Spill Prevention Control & Countermeasure Plan (SPCC)
(4) Procedures to review and update, as appropriate, the emergency response plan to reflect changes at the stationary source and ensure that employees are informed of changes	ERP Manual reviewed annually CAER Manual reviewed annually EP-04 Spill Prevention Control & Countermeasure Plan (SPCC) R-13-024 RCRA Contingency Plan
(b) A written plan that complies with other Federal contingency plan regulations or is consistent with the approach in the National Response Team's Integrated Contingency Plan Guidance ("One Plan") and that, among other matters, includes the elements provided in paragraph (a) of this section, shall satisfy the requirements of this section if the owner or operator also complies with paragraph (c) of this section	ERM RSP-1311; Emergency Response WAC 296-62 Parts (P) & HAZWOPER CAER Manual EP-04 Spill Prevention Control & Countermeasure Plan (SPCC) R-13-024 RCRA Contingency Plan

RMP Regulatory Language Subpart E – Emergency Response 68.95 Emergency Response Program	Marathon Anacortes Refinery Method of Compliance
I The emergency response plan developed under paragraph (a) (1) of this section shall be coordinated with the community emergency response plan developed under 42 U.S. C. 11003. Upon request of the local emergency planning committee or emergency response officials, the owner or operator shall promptly provide to the local emergency response officials information necessary for developing and implementing the community emergency response plan.	Skagit County Local Emergency Planning Center and CAER.

19.0 ATTACHMENT 2 – LIST OF REGULATED TOXIC SUBSTANCES

Toxic Substance Name	CAS No.	Threshold Quantity (lb)	Basis for Listing
Acrolein [2-Propanal]	107-02-8	5,000	b
Acrylonitrile [2-Propenenitrile]	107-13-1	20,000	b
Acrylyl chloride [2-Propenoyl chloride]	814-68-6	5,000	b
Allyl alcohol [2-Propen-1-ol]	107-18-6	15,000	b
Allylamine [2-Propen-1-amine]	107-11-9	10,000	b
Ammonia (anhydrous)	7664-41-7	10,000	a, b
Ammonia (conc 20% or greater)	7664-41-7	20,000	a, b
Arsenous trichloride	7784-34-1	15,000	b
Arsine	7784-42-1	1,000	b
Boron trichloride [Borane, trichloro-]	10294-34-5	5,000	b
Boron trifluoride [Borane, trifluoro-]	7637-07-2	5,000	b
Bor21rifluoro21eide compound with methyl ether (1:1) [boro21rifluorouro (oxybis metane)]-, T-4-	353-42-4	15,000	b
Bromine	7726-95-6	10,000	a, b
Carbon disulfide	75-15-0	20,000	b
Chlorine	7782-50-5	2,500	a, b
Chlorine dioxide [Chlorine oxide (ClO2)]	10049-04-4	1,000	c
Chloroform [Methane, trichloro-]	67-66-3	20,000	b
Chloromethyl ether [Methane, oxybis[chloro-]	542-88-1	1,000	b
Chloromethyl methyl ether [Methane, chloromethoxy-]	107-30-2	5,000	b
Crotonaldehyde [2-Butenal]	4170-30-3	20,000	b
CrotonaldehydI(E)- [2-ButIl, (E)-]	123-73-9	20,000	b
Cyanogen chloride	506-77-4	10,000	c
Cyclohexylamine [Cyclohexanamine]	108-91-8	15,000	b
Diborane	19287-45-7	2,500	b
Dimethyldichlorosilane [Silane, dichlorodimethyl-]	75-78-5	5,000	b
1,1-Dimethylhydrazine [Hydrazine, 1,1-dimethyl-]	57-14-7	15,000	b
Epichlorohydrin [Oxirane, (chloromethyl)-]	106-89-8	20,000	b
Ethylenediamine [1,2-Ethanediamine]	107-15-3	20,000	b
Ethyleneimine [Aziridine]	151-56-4	10,000	b
Ethylene oxide [Oxirane]	75-21-8	10,000	a, b
Fluorine	7782-41-4	1,000	b
Formaldehyde (solution)	50-00-0	15,000	b
Furan	110-00-9	5,000	b
Hydrazine	302-01-2	15,000	b
Hydrochloric acid (conc 30% or greater)	7647-01-0	15,000	d
Hydrocyanic acid	74-90-8	2,500	a, b
Hydrogen chloride (anhydrous) [Hydrochloric acid]	**7647-01-0**	**5,000**	**a**
Hydrogen fluoride/Hydrofluoric acid (conc 50% or greater) [Hydrofluoric acid]	7664-39-3	1,000	a, b
Hydrogen selenide	7783-07-5	500	b
Hydrogen sulfide	**7783-06-4**	**10,000**	**a, b**
Iron, pentacarbonyl- [Iron carbonyl (Fe(CO)5), (TB-5-11)-]	13463-40-6	2,500	b
Isobutyronitrile [Propanenitrile, 2-methyl-]	78-82-0	20,000	b

Toxic Substance Name	CAS No.	Threshold Quantity (lb)	Basis for Listing
Isopropyl chloroformate [Carbonochloridic acid, 1-methylethyl ester]	108-23-6	15,000	b
Methacrylontrile [2-Propenenitrile, 2-methyl-]	126-98-7	10,000	b
Methyl chloride [Methane, chloro-]	74-87-3	10,000	a
Methyl chloroformate [Carbonochloridic acid, methylester]	79-22-1	5,000	b
Methyl hydrazine [Hydrazine, methyl-]	60-34-4	15,000	b
Methyl isocyanate [Methane, isocyanato-]	624-83-9	10,000	a, b
Methyl mercaptan [Methanethiol]	**74-93-1**	**10,000**	**b**
Methyl thiocyanate [Thiocyanic acid, methyl ester]	556-64-9	20,000	b
Methyltrichlorosilane [Silane, trichloromethyl-]	75-79-6	5,000	b
Nickel carbonyl	13463-39-3	1,000	b
Nitric acid (conc 80% or greater)	7697-37-2	15,000	b
Nitric oxide [Nitrogen oxide (NO)]	10102-43-9	10,000	b
Oleum (Fuming Sulfuric acid) [Sulfuric acid, mixture with sulfur trioxide][1]	8014-95-7	10,000	e
Peracetic acid [Ethaneperoxoic acid]	79-21-0	10,000	b
Perchloromethylmercaptan [Methanesulfenyl chloride, trichloro-]	594-42-3	10,000	b
Phosgene [Carbonic dichloride]	75-44-5	500	a, b
Phosphine	7803-51-2	5,000	b
Phosphorous oxychloride [Phosphoryl chloride]	10025-87-3	5,000	b
Phosphorous trichloride [Phosphorous trichloride]	7719-12-2	15,000	b
Piperidine	110-89-4	15,000	b
Propionitrile [Propanenitrile]	107-12-0	10,000	b
Propyl chloroformate [Carbonochloridic acid, propylester]	109-61-5	15,000	b
Propyleneimine [Aziridine, 2-methyl-]	75-55-8	10,000	b
Propylene oxide [Oxirane, methyl-]	75-56-9	10,000	b
Sulfur dioxide (anhydrous)	7446-09-5	5,000	a, b
Sulfur tetrafluoride [Sulfur fluoride (SF4), (T-4)-]	7783-60-0	2,500	b
Sulfur trioxide	7446-11-9	10,000	a, b
Tetramethyllead [Plumbane, tetramethyl-]	75-74-1	10,000	b
Tetranitromethane [Methane, tetranitro-]	509-14-8	10,000	b
Titanium tetrachloride [Titanium chloride (TiCl4) (T-4)-]	7550-45-0	2,500	b
Toluene 2,4-diisocyanate [Benzene, 2,4-diisocyanato-1-methyl-][1]	584-84-9	10,000	a
Toluene 2,6-diisocyanate [Benzene, 1,3-diisocyanato-2-methyl-][1]	91-08-7	10,000	a
Toluene diisocyanate (unspecified isomer) [Benzene, 1,3-diisocyanatomethyl-][1]	26471-62-5	10,000	a
Trimethylchlorosilane [Silane, chlorotrimethyl-]	75-77-4	10,000	b
Vinyl acetate monomer [Acetic acid ethenyl ester]	108-05-4	15,000	b

[1] The mixture exemption in §68.115(b)(1) does not apply to the substance

Toxic Substance Name	CAS No.	Threshold Quantity (lb)	Basis for Listing
Basis for listing: A. Mandated for listing by Congress B. On EHS, vapor pressure 10 mm Hg or greater C. Toxic gas D. Toxicity of hydrogen chloride, potential to release hydrogen chloride, and history of accidents E. Toxicity of sulfur trioxide and sulfuric acid, potential to release sulfur trioxide, and history of accidents			

20.0 ATTACHMENT 3 – LIST OF REGULATED FLAMMABLE SUBSTANCES

Flammable Substance Name	CAS No.	Threshold Quantity (lb)	Basis for Listing
Acetaldehyde	75-07-0	10,000	g
Acetylene [Ethyne]	74-86-2	10,000	f
Bromotrifluorethylene [Ethene, bromotrifluoro-]	598-73-2	10,000	f
1,3-Butadiene	106-99-0	10,000	f
Butane	**106-97-8**	**10,000**	**f**
1-Butene	**106-98-9**	**10,000**	**f**
2-Butene	**107-01-7**	**10,000**	**f**
Butene	**25167-67-3**	**10,000**	**f**
2-Butene-cis	**590-18-1**	**10,000**	**f**
2-Butene-trans [2Itene, (E)]	**624-64-6**	**10,000**	**f**
Carbon oxysulfide [Carbon oxide sulfide (COS)]	463-58-1	10,000	f
Chlorine monoxide [Chlorine oxide]	7791-21-1	10,000	f
2-Chloropropylene [1-Propene, 2-chloro-]	557-98-2	10,000	g
1-Chloropropylene [1-Propene, 1-chloro-]	590-21-6	10,000	g
Cyanogen [Ethanedinitrile]	460-19-5	10,000	f
Cycolpropane	75-19-4	10,000	f
Dichlorosilane [Silane, dichloro-]	4109-96-0	10,000	f
Difluoroethane [Ethane, 1,1-difluoro-]	75-37-6	10,000	f
Dimethylamine [Methanamine, N-methyl-]	124-40-3	10,000	f
2,2-Dimethylpropane [Propane, 2,2-dimethyl]	**463-82-1**	**10,000**	**f**
Ethane	**74-84-0**	**10,000**	**f**
Ethyl acetylene [1-Butyne]	107-00-6	10,000	f
Ethylamine [Ethanamine]	75-04-7	10,000	f
Ethyl chloride [Ethane, chloro-]	75-00-3	10,000	f
Ethylene [Ethene]	**74-85-1**	**10,000**	**f**
Ethyl ether 'Ethane, 1,1'-oxybis-]	60-29-7	10,000	g
Ethyl mercaptan [Ethanethiol]	**75-08-1**	**10,000**	**g**
Ethyl nitrite [Nitrous acid, ethyl ester]	109-95-5	10,000	f
Hydrogen	**1333-74-0**	**10,000**	**f**
Isobutane [Propane, 2-methyl-]	**75-28-5**	**10,000**	**f**
Isopentane [Butane, 2-methyl-]	**78-78-4**	**10,000**	**g**
Isoprene [1,3-Butadiene, 2-methyl-]	78-79-5	10,000	g
Isopropylamine [2-Propanamine]	75-31-0	10,000	g
Isopropyl chloride [Propane, 2-chloro-]	75-29-6	10,000	g
Methane	**74-82-8**	**10,000**	**f**
Methylamine [Methanamine]	74-89-5	10,000	f
3-Methyl-1-butene	**563-45-1**	**10,000**	**f**
2-Methyl-1-butene	**563-46-2**	**10,000**	**g**
Methyl ether [Methane, oxybis-]	115-10-6	10,000	f
Methyl formate [Formic acid, methyl ester]	107-31-3	10,000	g
2-Methylpropene [1-Propene, 2-methyl-]	**115-11-7**	**10,000**	**f**
1,3-Pentadiene	504-60-9	10,000	f
Pentane	**109-66-0**	**10,000**	**g**
1-Pentene	**109-67-1**	**10,000**	**g**
2-Pentene, (E)-	**646-04-8**	**10,000**	**g**
2-Pentene, (Z)-	**627-20-3**	**10,000**	**g**

Flammable Substance Name	CAS No.	Threshold Quantity (lb)	Basis for Listing
Propadiene [1,2-Propadiene]	463-49-0	10,000	f
Propane	**74-98-6**	**10,000**	**f**
Propylene [1-Propene]	**115-07-1**	**10,000**	**f**
Propyne [1-Propyne]	74-99-7	10,000	f
Silane	7803-62-5	10,000	f
Tetrafluoroethylene [Ethene, tetrafluoro-]	116-14-3	10,000	f
Tetramethylsilane [Silane, tetramethyl-]	75-76-3	10,000	g
Trichlorosilane [Silane, trichloro-]	10025-78-2	10,000	g
Trifluorochloroethylene [Ethene, chlorotrifluoro-]	79-38-9	10,000	f
Trimethylamine [Methanamine, N,N-dimethyl-]	75-50-3	10,000	f
Vinyl acetylene [1-Buten-3-yne]	689-97-4	10,000	f
Vinyl chloride [Ethene, chloro-]	75-01-4	10,000	a, f
Vinyl ethyl ether [Ethene, ethoxy-]	109-92-2	10,000	g
Vinyl fluoride [Ethene, fluoro-]	75-02-5	10,000	f
Vinylidene chloride [Ethene, 1,1-dichloro-]	75-35-4	10,000	g
Vinylidene fluoride [Ethene, 1,1-difluoro-]	75-38-7	10,000	f
Vinyl methyl ether [Ethene, methoxy-]	107-25-5	10,000	f

21.0 ATTACHMENT 4 – RISK MANAGEMENT PLAN SUMMARY

21.1 Our Hazard Assessment

In June 1996, the federal government's Environmental Protection Agency (EPA) published new regulations that implement certain Clean Air Act Amendments of 1990, entitled "Accidental Release Prevention Requirements: Risk Management Program (RMP)." The purpose of this new regulation is to reduce the risk of injury to facility personnel, the public, and the environment from an accidental release of hazardous materials (i.e. known as a "release") and to develop a dialogue between industry and the community about such potential accidents.

The RMP regulation requires regulated facilities, such as the Marathon Anacortes Refinery, to conduct an evaluation of the "flammable" and "toxic" substances present in an industrial facility and how these substances might impact the public and environment should they be accidentally released.

21.2 Flammable Accidental Release Scenarios

Our assessment indicates we have flammable substances, such as: propane, butane, and pentane, in large enough quantities (i.e. as set forth in the EPA regulation) that we must evaluate the impact of a release to the environment. The regulation requires us to evaluate various types of flammable accident scenarios, including what the RMP regulation refers to as an "alternate" (i.e. rare, but more realistic) scenario and a "worst case" (i.e. but very improbable) scenario (WCS).

21.3 Flammable Alternative (More Realistic) Accident Scenario

Although we evaluated many scenarios at our Marathon Anacortes Refinery, we are required to report only one "alternative" scenario to the EPA. Our "alternative" release scenario (ARS) is an assumed "Butane Release from a Rail Car" accident. Butane is the clear liquid used to fuel many cigarette lighters. Please keep in mind, even this "more realistic" scenario is extremely unlikely to occur because of extensive prevention and Emergency Response Programs we have in place.

Marathon Anacortes Refinery unloads butane from railroad tank cars almost every day. For the flammable accidental release scenario, we assumed a leak occurred during our unloading operation.

The following assumptions were applied when we evaluated this assumed butane rail car accident:

- The release of the material would create a flammable vapor cloud near the ground.
- The release would involve the entire contents of a typical railroad car filled with 150,000 pounds of butane, or approximately 30,000 gallons, within 10 minutes.
- The vapor cloud would travel away from the rail car with the wind until it found an ignition source.
- An explosion would occur.

21.4 Flammable Worst Case (But Improbable) Scenario

The EPA mandates in its RMP regulation that we follow a strict set of rules when evaluating the "worst case" (i.e. but improbable) scenario. At some facilities, such as the Marathon Anacortes Refinery, these strict rules have led to "worst case" scenarios that are not only improbable, but essentially impossible under the evaluations conducted by Engineering Specialists. Although our "worst case" scenario is essentially impossible, we want to share with you the results of the evaluation.

The flammable "worst case" (i.e. but improbable) scenario that the Marathon Anacortes Refinery is reporting to the EPA is a "Pentane/Butane Release from a Storage Tank." Pentane is a major ingredient in ordinary automobile gasoline; butane is used in motor gasoline and sold commercially as a fuel for other equipment. We store pentane and butane as a liquid under pressure in tanks that are shaped like a large sphere. Although pentane is not as volatile (hazardous) as propane or butane, we assumed it would act similarly if it were released to the atmosphere. Our calculations, therefore, are conservative and may over-predict the hazardous effect of the release. This scenario was selected because it is the largest storage tank of propane, butane, or pentane in our Marathon Anacortes Refinery.

These assumptions were applied when we evaluated the assumed pentane release:

- The release of the material would create a flammable vapor cloud near the ground.
- The release could involve the entire contents of our full pentane storage tank, which holds approximately 6.8 million pounds, or 1.3 million gallons, within 10 minutes.
- The vapor cloud would travel away from the spherical tank with the wind until it found an ignition source.
- An explosion would occur.

Worst case scenarios involving propane and butane were also evaluated. The results show that there would be less hazardous effects involving the worst-case propane or butane release as compared to our worst-case release from our pentane storage tank.

21.5 Potential Health Effects of an Accidental Flammable Release

If a release were to occur from a butane rail car or from our pentane storage tank, it is more likely that our personnel would isolate the leak and stop the flow of butane or pentane before any fire or explosion occurred. However, if a fire or explosion did occur, you might observe the following:

Fire: If a fire occurs at the Marathon Anacortes Refinery, it is likely dense, black smoke will be generated. Studies show smoke generated from hydrocarbon fires does not contain toxic chemicals in quantities sufficient to cause acute, which means adverse, health effects. However, smoke from a refinery fire, just like smoke from a burning house, can be a breathing irritant. If a fire occurs at our Marathon Anacortes Refinery and lots of smoke is generated, people living near the refinery might be requested to stay indoors or move upwind until the smoke clears.

Explosion: The Marathon Anacortes Refinery, since it started operating in 1955, has never had an explosion that impacted people or property outside of the refinery. If a release were to occur, and if the fuel and air were in proper proportions, an explosion could occur. In most cases, these effects would only be felt by those in the immediate

vicinity of the incident, or workers inside the Marathon Anacortes Refinery. It is a rare occurrence in our industry for a release of a flammable material to impact people or property outside of a refinery.

When rating the potential damage potential of an explosion, specialists use the term "over-pressure." This means the pressure created by an explosion that would push outward, in addition to the normal air pressure we normally feel. The EPA's new RMP regulation requires us to estimate the impacted area on the basis of 1 pound per square inch (psi) over-pressure. The human body is very sturdy and would not normally experience permanent injury from an overpressure of 1 psi. However, minor property damage may be sustained at overpressures that are less than 1 psi.

The maps and charts related to the WCS and ARS show the types of things you might see or feel, as a refinery neighbor, in the event of a fire or explosion. Please keep in mind that that the farther you would be away from the refinery if an explosion or fire occurred, the less you would hear or feel. In the same way, during a thunderstorm a clap of thunder is very loud near a bolt of lightning but may be just a low rumble at a greater distance.

Outside the "mapped" circles: (i.e. Anacortes, Fidalgo Island, Bayview, Samish Island, Guemes Island, La Conner) (See WCS/ARS)

- Loud noise.
- Potential for some broken glass or cracks in walls.
- Potential for a large fire inside the refinery with observable black smoke.

Within the "mapped" circles: (See WCS/ARS)

- Loud noise; ground shakes.
- Potential building damage.
- Observable black smoke may be concentrated, people may be asked to stay indoors.

The likelihood of an accident resulting in this type of damage listed above is extremely low; given the work we do at the Marathon Anacortes Refinery to prevent any accident from occurring. Please read on for more information about "Our Accident Prevention Program" and "Our Emergency Response Program."

21.6 Flammable Materials Not Regulated under the RMP Regulation

Besides butane and pentane and mid-range gasoline, some of the other materials produced or processed at our refinery that could be accidentally released to the environment are jet fuel, diesel fuel, and crude oil. These types of materials do not have the same level of potential health effects as the hypothetical cases we have just described and are not covered under the EPA Risk Management Program regulation. The major concern for these heavier, less volatile materials is the damage that could result if they were accidentally spilled on land or water. There are other, very strict federal and state regulations governing the potential for spills of petroleum products. The Marathon Anacortes Refinery works diligently to meet or exceed all of these environmental regulations and has programs in place to prevent and respond to such spills.

21.7 Toxic Chemical Accidental Release Scenarios

The EPA's Risk Management Program regulation not only requires facilities such as the Marathon Anacortes Refinery to conduct a hazard assessment of "flammable" substances, but also requires an evaluation of "toxic" substances.

We have conducted this hazard assessment and have determined the refinery has no "toxic" substances in large enough quantities to report under the RMP Plan. Although we are not required to evaluate the effects of a toxic release under the RMP regulation, we went ahead and evaluated assumed scenarios to better understand the potential affects an accidental, toxic release might have on our community. The following toxic materials located at our refinery were reviewed: hydrogen sulfide, chlorine, ammonia, and sulfur dioxide.

Any of these toxic materials could lead to adverse health effects, such as painful breathing, and in extreme cases, death (See Attachment 2). The likelihood of a release of toxic material resulting in any adverse health effects to people outside the Marathon Anacortes Refinery is extremely small.

The following assumptions were applied when we evaluated the assumed toxic release scenarios:

- A cloud of a toxic substance travels away from the Marathon Anacortes Refinery.
- As the cloud travels, it spreads, and becomes less concentrated.
- The cloud travels in the direction of the wind.
- Average weather conditions exist.

In the unlikely event a toxic release occurs, it would affect people differently depending on how close they were to the Marathon Anacortes Refinery and the prevailing wind direction. People upwind of the release would probably not be affected at all. However, people downwind might be adversely affected. If a large toxic release were to occur, here are general descriptions of how it might impact nearby people:

Within 0.4 to 6 miles (i.e. March Point, Anacortes, Fidalgo Island, Bayview, Samish Island, Guemes Island, and La Conner)

- Potential to smell an unusual or unpleasant odor.
- At this distance, it is expected that the toxic substance would disperse to a very low concentration that does not adversely affect people's health.

Within 0.4 mile (i.e. March Point)

- Potential to smell an unusual or unpleasant odor.
- It is possible, however very improbable, that the toxic material in the air could be of such concentration that Emergency Officials would order people to stay indoors. This is referred to as "shelter-in-place" by emergency officials, or the officials might request you to quickly leave the area.

Our assessment indicates the more likely scenarios could potentially impact people only up to 0.4 mile from the release. However, people at greater distances from the Marathon Anacortes Refinery may be ordered by officials to shelter-in-place or evacuate, depending on the situation. Read the section marked "What Should I Do in Case of a Chemical Emergency?"

We are not aware of any past toxic release, since the start of operations at our Marathon Anacortes Refinery, that has required people outside of the refinery to shelter-in-place or evacuate. The likelihood of an accidental toxic release that would require people outside of the Marathon Anacortes Refinery to take shelter is extremely low; given the programs we have in place to prevent this type of accident.

21.8 Our Accident Prevention Program

At the Marathon Anacortes Refinery, we have and use a variety of safety equipment and procedures to prevent accidental releases of flammable and toxic materials to the environment. Some of these procedures and equipment are required by federal and state laws. Other prevention and protection measures are what we do above and beyond these laws to protect others and ourselves.

Following are some of the typical safety measures taken at our facility:

- Personnel within the Marathon Anacortes Refinery are required to wear flame-retardant clothing to protect them from burns.
- Employees and contractors receive extensive health and safety training, following Occupational Safety and Health Administration (OSHA) guidelines.

Operators are trained in start-up, operation, shutdown, and maintenance of all equipment as well as trained to respond to emergencies and fight fires, e.g., control a fire to prevent other process equipment from exposures or to extinguish a fire.

- Shut-off devices and relief valves assist in handling unexpected changes in pressure and temperature.
- Safety controls, including warning alarms, interlocks, and leak detectors, provide multiple lines of defense.
- Continuous monitoring of pressure of our equipment verifies safe operating parameters.
- Before we perform work on any piece of equipment, we complete what are called "safe-work permits," which are reports explaining all the safety precautions that must be taken to complete the job safely.
- Programs are in place to review incidents to help prevent them from occurring again.
- Audits, or inspections, are performed to help ensure compliance with set procedures. We periodically audit how well we follow our own safety procedures.
- Ongoing work team reviews are conducted to identify opportunities to improve our processes and improve operation of the Marathon Anacortes Refinery's equipment.
- Before alterations are made to our processes, proposed changes undergo an approval process and employees are trained on how to do their jobs safely given the change.

21.9 Our Emergency Response Program

We have trained Emergency Team Members in the Marathon Anacortes Refinery that respond to fires, chemical releases, spills, and medical emergencies. Over the years, we have increased training to include contingency plans for improbable and extraordinary

flammable or toxic release scenarios – exactly the sort of situations covered in this overview. In the event of an accident, the Marathon Anacortes Refinery Emergency Response Team is prepared with specialized training and equipment.

All Marathon Anacortes Refinery personnel receive annual emergency training. The type of training varies according to the potential hazards each person may encounter in routine work assignments. We also participate in the Western States Petroleum Association (WSPA) Mutual Aid Agreement. If necessary, we can call on participating members to help supply additional specialized equipment and resources.

Marathon Anacortes Refinery, as a member of the March Point CAER (Community Awareness/Emergency Response) Group, has joined with other nearby chemical and refining companies to plan, work, and drill with Local Emergency Responders and Local Authorities to improve our emergency response plans in the event of a chemical release. The CAER Group also has taken an active role in communicating the hazards, Prevention Programs, and Emergency Response Programs of the local March Point industries with the local community.

21.10 The RMP "Five-Year Accident History"

Marathon has had one release that meets the definition presented in the RMP Rule (i.e. 68.42 five-year accident history). This release occurred on 04/02/10 and the details were filed with the 2011 RMP. The five-year accident related to the NHT incident was removed for the 5-year anniversary RMP re-certification.

No release that meets the definition presented in the RMP Rule (i.e. 68.42 five-year accident history) has occurred in the 5-year period from 2011-present

Marathon applies the criteria listed below to determine if a release is RMP reportable. The release must be from a covered process and involve a regulated substance held above its threshold quantity in the process.

21.11 What Should I Do in a Chemical Emergency?

21.11.1 How Will I Be Notified?

If a release, fire or explosion were to happen, a company representative will contact trained Emergency Agencies immediately through the 911 system. Based on the nature of the release, and weather factors, the decision to shelter-in-place or evacuate would be made in cooperation with the emergency agencies. Notification to the media and the Emergency Alert System (EAS) would occur. Local television and radio stations would then broadcast emergency messages to listeners. In addition, Industry Personnel, Law Enforcement Agencies, or Local Fire Departments may personally alert citizens via phone, door-to-door notification, or with vehicle public address systems.

21.11.2 What is Shelter-In-Place?

As we mentioned earlier, Fire Department, Health Department, and Emergency Service Officials may advocate going indoors instead of remaining outside in the case of a chemical accident. This is known as shelter-in-place.

21.11.3 Want to Know More?

As a neighbor, we want to help answer any questions you may have. If you want to learn more about these scenarios or about our planning and prevention activities, please contact any member of the EH&S Department.

22.0 ATTACHMENT 5 – EPA TITLE V PERMITS

Under the Clean Air Act (CAA), stationary sources may be required to have a Title V air permit. The Title V air permit for a stationary source includes general permit terms and conditions, a list of the applicable state and federal air regulations, emission limits, recordkeeping and reporting requirements. Title V air permitted stationary sources must periodically report to the state or US EPA certain deficiencies or deviations from the regulatory (and permit) requirements. This report is commonly referred to as a Title V deviation report. RMP is an applicable requirement under CAA Title V air permit regulations, thus certain deficiencies of RMP must be included in Title V deviation report submissions.

RMP deficiencies to be reported as Title V deviations are as follows:

- Audit Findings from RMP or PSM Compliance Audits conducted on RMP covered processes.
    - PSM or RMP Agency inspection findings and /or citations related to an RMP covered process.
- This could include undocumented deficiencies noted during an Agency inspection closeout meeting. Undocumented deficiencies should undergo legal review prior to submitting deviation report.
    - Incident Root Causes that are regulatory deviations in PSM/RMP element programs which involve either:
    - An incident occurred in a RMP covered unit which was considered a PSE1 Incident (Ref. PSM-1070 Appendix R) involving the release of a regulated substance, or
- An incident which is required to be listed on the facility's five-year accident history, defined in 40 CFR § 68.42 as all accidental releases from RMP covered processes that resulted in deaths, injuries, or significant property damage on site, or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage.

The respective Organization's Corporate ES&S staff and/or Corporate Law should be consulted if questions exist as to whether RMP-related items are covered deficiencies that should be reported as Title V deviations.

Deficiencies identified since the previous Title V submission must be included in the deviation report regardless of whether or not the deficiency has been corrected, however; deficiencies which have been corrected should be noted as such in the submission.

PSM personnel are responsible for assembling PSM/RMP deviation information outlined above and providing it to the Environmental personnel in a timely manner.

Environmental personnel are responsible to request the PSM/RMP deviation information from the PSM personnel in advance of the Title V submission, and for incorporating deviation information into the submission.

23.0 ATTACHMENT 5 – RMP CONFIDENTIALITY

The regulations of the USEPA and the Federal Bureau of Investigation prohibit federal agencies from posting certain RMP Offsite Consequence Analysis information on the EPA website. Due to potential security concerns, MPC RMP Sites will provide assistance to USEPA, on request, to help ensure that the information is properly protected.

The following information is to be protected by the USEPA:

- The name of the chemical involved (RMP Sections 2.l.a; 3.l.a; 4.1; 5.1);
- The scenario involved (RMP Sections 2.4; 3.4; 4.3; 5.3);
- The quantity of chemical released (RMP Sections 2.5; 3.5; 4.4; 5.4);
- The release rate of the chemical involved for the Worst-case Release (RMP Section 2.6);
- The release rate of the chemical involved in the Alternative Release Scenario (RMP Section 3.6);
- The duration of the chemical release in the Alternative Release Scenario (RMP Section 3.7);
- The distance to endpoint (RMP Sections 2.11; 3.11; 4.6; 5.6);
- The endpoint used for flammables for the Alternative Release Scenario (RMP Section 5.5)
- The residential population within the distance to endpoint (RMP Sections 2.12; 3.12; 4.7; 5.7);
- The Public Receptors within the distance to endpoint (RMP Sections 2.13; 3.13; 4.8; 5.8);
- The Environmental Receptors within the distance to endpoint (RMP Sections 2.14; 3.14; 4.9; 5.9); and
- Any map or other graphic used to illustrate a scenario (RMP Sections 2.16; 3.17; 4.11; 5.12).

Refer to 40 CFR 1400 for additional details.

Additionally, 40 I § 68.210(c) specifies that the disclosure of information classified or restricted by the Department of Defense or other Federal agencies or contractors of such agencies shall be controlled by applicable laws, regulations, or executive orders concerning the release of that information. This requirement is relevant to the information sharing required for coordination with local emergency planning and response organizations (40 CFR § 68.93) and public meetings required after an RMP Reportable accident (40 CFR § 68.210).

24.0 ATTACHMENT 6 – PSM/RMP REGULATORY CROSS REFERNCE

Element	PSM - WAC	PSM – OSHA	RMP
PSM of Highly Hazardous Chemicals [2]	§ 296-67-001	§ 1910.119(a)	Subpart A § 68.10
Definitions [2]	§ 296-67-005	§ 1910.119(b)	Subpart A § 68. 3
Employee Participation [2]	§ 296-67-009	§ 1910.119(c)	Subpart D § 68.83
Process Safety Information [2 3]	§ 296-67-013	§ 1910.119(d)	Subpart D § 68.65
Process Hazard Analysis (PHA) [2 3]	§ 296-67-017	§ 1910.119(e)	Subpart D § 68.67
Operating Procedures [2 3]	§ 296-67-021	§ 1910.119(f)	Subpart D § 68.69
Training [2 3]	§ 296-67-025	§ 1910.119(g)	Subpart D § 68.71
Contractors [2 3]	§ 296-67-029	§ 1910.119(h)	Subpart D § 68.87
Pre-Startup Review [2 3]	§ 296-67-033	§ 1910.119(I)	Subpart D § 68.77
Mechanical Integrity [2 3]	§ 296-67-037	§ 1910.119(j)	Subpart D § 68.73
Hot Work Permit [2 3]	§ 296-67-041	§ 1910.119(k)	Subpart D § 68.85
Management of Change [2 3]	§ 296-67-045	§ 1910.119(l)	Subpart D § 68.75
Incident Investigation [2 3]	§ 296-67-049	§ 1910.119(m)	Subpart D § 68.81
Emergency Planning & Response [2]	§ 296-67-053	§ 1910.119(n)	Subpart E § 68.95
Compliance Audits [2 3]	§ 296-67-001	§ 1910.119(a)	Subpart D § 68.79
Trade Secrets	§ 296-67-005	§ 1910.119(b)	Subpart G § 68.152

40 CFR 68 RMP Rule	Requirement Descript–on
Subpart A - General	Definitions, Applicability
Subpart B – Hazard Assessment	Worst case scenarios; five-year accident history
Subpart C – Program 2 Prevention Program	Not applicable
Subpart D – Program 3 Prevention Program	See above; mirrors OSHA PSM Program
Subpart E – Emergency Response	See above; mirrors OSHA PSM Program
Subpart G – Risk Management Plan	RMP content requirements, methodologies for WCS/ARS, etc.
Subpart H – Other Requirements	e.g., Confidential Business Information

[2] Compliance with all PSM elements related to EPA RMP and OSHA/Washington State PSM standards are defined in the PSM-04 procedure

[3] 12 of the 14 OSHA PSM elements are presented in the RMP Subpart D – Program 3 Prevention Program. The RMP Rule does not include Emergency Planning and Response in its "Prevention Program", but rather addresses it separately in Subpart E – Emergency Response. Additionally, "Trade Secrets" is not included in Subpart D with the Prevention Program but is referenced in Subpart G of the RMP Rule.