# APPENDIX H: CHEMICAL EMERGENCY PREPAREDNESS AND PREVENTION OFFICE (CEPPO)

## RISK MANAGEMENT PLAN
## DATA ELEMENT INSTRUCTIONS

### EXECUTIVE SUMMARY

The executive summary must include a brief description of your facility's risk management program. You determine the length; it could be as short as two or three pages or, if you have a large number of processes, you may want to include more information. You should view the Executive Summary as a chance to communicate the nature of the risks posed by your facility to your community and to explain what you have done to minimize that risk. The summary can be an excellent vehicle with which to display the effort and resources your facility has put into its accident safety program.

### SECTION 1: REGISTRATION

If you are covered by the risk management program rule, you must submit the registration data even if you have only Program 1 processes. The registration consists primarily of facility identification and place-based information, which means that you can obtain most of the data from other sources, including your EPCRA Tier I or II reports, Form R reports, or various permit applications.

1.1.a. Facility Name. For this data element, you must provide the name of your facility. This name must be specific to the site. If you are part of a large corporation, the name may be the corporate name plus the location.

1.1.b. Corporate Parent Company #1 Name. If applicable, enter the name of your ultimate parent company. Your parent company is the corporation or other business entity that owns at least 50 percent of the voting stock of your company. If you are owned by a joint venture, enter the first of your two major owners here. If your company does not have a parent company, leave this data element blank.

1.1.c. Corporate Parent Company #2 Name. If you are owned by a joint venture, enter the name of the second major owner here.

1.2 RMP Facility Identifier. Each facility, upon first-time submission of its RMP to EPA, will be assigned a unique identifier called the RMP Facility ID. As a result, this RMP Facility ID must be blank for first-time submissions, but will be required for subsequent submissions (resubmissions) and for administrative changes. A facility can obtain its RMP Facility ID from RMP*Info on the Internet [web address yet to be determined]. The RMP Facility ID will be a seven character alphanumeric sequence (e.g., TX12345), in which the first two characters are the standard two-letter abbreviation for the state or territory in which the facility is located. EPA will send back notification to the facility after its first submission informing them of their new RMP Facility ID. The notification letter may be via E-mail, or regular mail.

1.3. EPA Identifier. The EPA Identifier is a unique, 12-character identification code issued by EPA to each facility regulated by the Agency under a Federal environmental statute, including facilities regulated by state programs with delegated authority from EPA. The first two characters are the standard two-letter abbreviation for the state or territory in which the facility is located. EPA does not expect that most facilities covered by this rule will not have an EPA Identifier. If you do not have an EPA Identifier, leave this data element blank.

1.4.a. Facility Dun and Bradstreet Number (DUNS). A Dun and Bradstreet Number (DUNS) is a nine-digit identification number that allows your business to be cross-referenced to various business information. You may not have a Dun and Bradstreet number. If you do, it should be available from your treasurer or financial officer. You can also obtain the numbers from your local D&B office (check the telephone book White Pages).

If you do not subscribe to the D&B service, you can obtain a "support number" from the D&B center located in Allentown, PA, at (612) 882-7748 from 8:30 am to 8:00 pm, Eastern time. If your facility has not been assigned a D&B number, leave this item blank. Federal, state, or local government facilities will not have D&B numbers.

1.4.b-c. Dun & Bradstreet Number (DUNS) of your Parent Company. Enter the D&B number of your ultimate parent company(ies), if applicable. If you are owned by a joint venture, enter the numbers for your two major owners. If you do not have a parent company or your parent company does not have a D&B number, leave this item blank.

1.5.a-g. Facility Location Address. Enter your facility location address, including the street, city, county, state, and zip code of your facility. This is the location where regulated substances are held. The city should be the local legal community, it could be a township, village, or something else. Use street and local road designations, not post office or rural box numbers. This is not a mailing address, and EPA will not attempt to mail correspondence to this address.

1.5.h-i. Latitude and Longitude. Enter the latitudinal and longitudinal coordinates of your facility in "degrees, minutes, and seconds." Latitude represents the distance north or south of the equator, and longitude represents the distance east or west of the prime meridian. The direction from the equator and the prime meridian may be reported as north, south, east, and west, or as positive (for east and north) or negative (for west and south) values.

Be careful not to reverse your latitude and longitude coordinates. Latitude in the 48 contiguous states ranges from 25 to 49, while longitude ranges from 72 to 124. The following table illustrates the two acceptable responses for a particular latitude and longitude value. Latitude for Contra Costa County ranges from 37º to 38º; longitude ranges from 121º to 122º.

| | degrees/minutes/seconds | degrees/ minutes/ seconds |
|---|---|---|
| Boston | 42 17' 55" N<br>71 06' 03" W | + 42 17' 55"<br>- 71 06' 03" |
| Chicago | 41 53' 49" N<br>87 42' 11" W | + 41 53' 49"<br>- 87 42' 11" |

| | | |
|---|---|---|
| Oakland | 37 47' 50" N<br>122 18' 08" W | + 37 47' 50"<br>- 122 18' 08" |
| Honolulu | 21 18' 00" N<br>157 54' 00" W | + 21 18' 00"<br>- 157 54' 00" |

It is important to provide accurate latitude and longitude values in your RMP. RMP*Submit will let you know if the value that you indicate falls outside of the range of values for the county in which your facility is located.

To determine your latitude and longitude measurements, you can use U.S. Geological Survey (USGS) topographic maps. These maps are available in many libraries; you may also purchase a topographic map directly from the USGS by submitting a written request to:

Distribution Branch of the USGS

P.O. Box 25286
Denver Federal Center
Denver, CO 90225
Phone: (303) 236-7477

To help you identify the appropriate map to order, refer to the USGS Index to Topographic and Other Map Coverage and the USGS Catalog of Topographic and Other Published Maps. The Catalog also contains a list of map depository libraries and topographic map dealers. EPA's Form R and Instructions, available from EPA's EPCRA hotline at (800) 424-9346, includes an appendix on how to determine latitude and longitude from topographic maps. This document provides guidance for complying with EPCRA section 313 and is revised each year.

You may also use LandView, a computer system developed by EPA and NOAA and available on CD-ROM. For more information on downloading and purchasing LandView: http://www.epa.gov/ceppo/tools.html. With LandView, you can simply click on the location of your facility on the map; LandView will give you the latitude and longitude. If your facility is already listed in LandView, as it will be if you file TRI reports, LandView will have located it based on the latitude and longitude you provided when you filed your TRI reports. Be sure that the location is accurate; the system will not have corrected the data if the latitude or longitude you submitted is incorrect. You may also use a hand-held global positioning satellite/system (GPS) device, if one is available.

1.5.j. Method for Determining Latitude and Longitude. You must also indicate the method that you used to determine your latitude and longitude data. The table below lists the codes to be used for this element and provides a brief description of each method.

The most common methods for determining Latitude and Longitude are I1 (Interpolation-Map), and I4 (Interpolation-Digital Map Source). Use I1 if you obtained your latitude and longitude from a paper map. Use I4 if you obtained your latitude and longitude from a computer-based geographic information system (GIS).

Code Description of Method

A1 Address Matching -House Number: derived from a point corresponding to a house or building number along a street segment.

A2 Address Matching - Block Face: derived from a calculated midpoint of one side of a street segment with regard to odd or even addresses.

A3 Address Matching - Street Centerline: derived from a calculated midpoint and centerpoint of a street segment.

A4 Address Matching - Nearest Intersection: derived from the intersection closest to a house or building number.

A5 Address Matching - Primary Name: derived from the primary name of a township or city.

A6 Address Matching - Digitized: derived from hands-on use of computer-based mapping tools.

AO Address Matching - Other: derived through the use of non-specific matching techniques.

C1 Census Block - 1990 - Centroid: derived from the calculated centerpoint of a 1990 Census Block as defined by the U.S. Bureau of the Census

C2 Census Block/Group - 1990 - Centroid: derived from the calculated centerpoint of a 1990 Census Block/Group as defined by the U.S. Bureau of the Census

C3 Census Block Tract - 1990 - Centroid: derived from the calculated centerpoint of a 1990 Census Tract as defined by the U.S. Bureau of the Census.

CO Census - Other: derived from other Census-defined areas, such as Metropolitan Statistical Areas (MSAs).

GO GPS-Unspecified: derived through the use of an unspecified GPS device. G1 Global Positioning System (GPS) Carrier Phase Static Relative Positioning Technique: derived through the use of a GPS device employing Carrier Static Relative Positioning Technique. G2 GPS Carrier Phase Kinematic Relative Positioning Technique: derived through the use of a GPS device employing Phase Kinematic Relative Positioning Technique.

G3 GPS Code Measurements (Pseudo Range) Differentially Corrected: derived through the use of a GPS device where measurements have been corrected for error based on the existence of known base stations relative to the study area.

G4 GPS Code Measurements (Pseudo Range) Precise Positioning Service: derived through the use of a GPS device employing real-time precise positioning techniques.

G5 GPS Code Measurements (Pseudo Range) Standard Positioning Service SA OFF: derived through the use of a GPS device when the Department of Defense Selective Ability was turned off.

G6 GPS Code Measurements (Pseudo Range) Standard Positioning Service SA ON: derived through the use of a GPS device when the Department of Defense Selective Ability was turned on.

G7 GPS Code Measurements (Pseudo Range) Standard Positioning Service Corrected using Canadian Active Control System: derived through the use of a GPS device employing the Canadian Active Control System.

I1 Interpolation - Map: derived from a paper or other non-digital map

I2 Interpolation - Photo: derived from an aerial photograph

I3 Interpolation - Satellite: derived from a satellite image.

I4 Interpolation - Digital map source (TIGER): derived from a digital map, mapping software or mapping tool.

I5 Interpolation - SPOT: derived from a SPOT image.

I6 Interpolation - MSS (Multi-spectral Scanner): derived from a MSS image

I7 Interpolation - TM (Thematic Mapper): derived from a thematic mapper

L1 Loran C: derived from the use of a Loran-C positioning device

P1 Public Land Survey-Section: a coordinate pair corresponding to a point from a public land survey.

P2 Public Land Survey-Quarter Section: a coordinate pair corresponding to a point from a public land survey

P3 Public Land Survey-Eighth Section: a coordinate pair corresponding to a point from a public land survey.

P4 Public Land Survey-Sixteenth Section: a coordinate pair corresponding to a point from a public land survey.

P5 Public Land Survey-Footing: a coordinate pair corresponding to a point from a public land survey.

S1 Classical Surveying Techniques: derived from traditional surveying techniques associated with construction activities.

Z1 ZIP Code-Centroid: derived from the calculated center of a U.S. postal ZIP code.

Z2 ZIP+2 Code-Centroid: derived from an averaging of multiple street segments. Approximately the size of a Census Block Group.

Z4 ZIP+4 Code-Centroid: derived from a calculated midpoint of one side of a street segment with regard to odd or even house or building numbers.

1.5.k. Description of Location Identified by Latitude and Longitude. You must also describe the exact location your latitude and longitude values represent. The table below lists the codes to be used for this element.

The most common Latitude and Longitude location descriptions are PG (Plant Entrance - General) and CE (Center of Facility).

Code Description of Location

AB Administrative Building: a building, structure, or portion thereof that houses the administrative functions of a facility as opposed to production or manufacturing activities.

AE Atmospheric Emissions Treatment Unit: equipment installed for the express purpose of treating chemical emissions prior to their release into the atmosphere.

AM Air Monitoring Station: equipment installed at a predetermined location for the automatic, manual, or periodic collection of environmental air samples.

AS Air Release Stack: a free-standing vertical structure constructed for the conveyance and release of chemical emissions into the air.

AV Air Release Vent: a horizontal structure constructed for the release of chemical emissions into the air, typically from the side or roof of a building.

CE Center of Facility: a representative center point within the boundary of a facility.

FC Facility Centroid: the calculated center of a contiguous facility.

IP Intake Pipe: a pipe or intake opening constructed for the collection and conveyance of water.

LC Loading Area Centroid: the calculated center of a portion of a facility associated with loading activities.

LF Loading Facility: the portion of a facility associated with loading and/or transshipment activities.

LW Liquid Waste Treatment Unit: Equipment installed for the express purpose of treating chemical emissions prior to their release to water, publicly owned treatment works (POTW) or off-site transfer. NE NE Corner of Land Parcel: the northeast most corner or boundary of a land parcel.

NW NW Corner of Land Parcel: the northwest most corner or boundary of a land parcel.

OT Other: see descriptive comment field.

PC Process Unit Area Centroid: the calculated center of a portion of a facility associated with processing and/or manufacturing activities.

PF Plant Entrance (Freight): the entrance to a facility associated with transshipment activities.

PG Plant Entrance (General): the front gate or general entrance of a facility.

PP Plant Entrance (Personnel): the entrance to a facility associated with employees.

PU Process Unit: the portion of a facility associated with processing and/or manufacturing activities.

SD Solid Waste Treatment/Disposal Unit: the portion of a facility associated with the treatment and/or disposal of solid waste.

SE SE Corner of Land Parcel: the southeast most corner or boundary of a land parcel.

SP Lagoon or Settling Pond: the portion of a facility designed to accommodate sedimentation or settling of chemical by-products necessitated by the manufacture, production, or use of chemicals.

SS Solid Waste Storage Area: the portion of a facility associated with the storage of solid waste.

ST Storage Tank: a receptacle or chamber used for storing bulk fuels or chemicals.

SW SW Corner of Land Parcel: the southwest most corner or boundary of a land parcel.

UN Unknown

WA Wellhead Protection Area: an area at the earth's surface buffering a wellhead.

WL Well: a shaft drilled in the earth for purposes such as obtaining subsurface drinking water, or collecting groundwater monitoring samples.

WM Water Monitoring Station: a location or study area for the automatic, manual, or periodic collection of water samples.

WR Pipe Release to Water: the point at which a pipe constructed for the conveyance and release of water-borne chemical emissions reaches a water body.

1.6.a. Owner or Operator Name. Enter the legal owner of the facility (person, company, association, or government agency).

1.6.b. Owner or Operator Phone Number. Enter the owner/operator's business phone number, including area code.

1.6.c-h. Owner or Operator Mailing Address. Enter the owner/operator's business mailing address, including street or P.O. or rural box, city, state, and zip code. The city should be the local legal community; it could be a township, village, or something else. In this instance, you should use post office and rural box numbers, if appropriate.

1.7.a. Name of person responsible for RMP (part 68) implementation

1.7.b. Title or position of person responsible for RMP (part 68) implementation

Your emergency contact should be:

An employee or contract employee of your facility;
Knowledgeable about your site;
Aware of all emergency plans; and
Able to provide emergency response support or direct response personnel to provide support.

If you only have Program 1 processes, you are not required to fill in these data elements.

For all other facilities, enter the name and title of the person or position that has overall responsibility for implementing and integrating the risk management program elements at your site. Although the name is not required, the title of the person or the position that has this responsibility is required.

Under the management system provision in § 68.15, you are required to identify the qualified person or position with overall responsibility for the risk management program elements. Therefore, you can refer to the information you documented under § 68.15 as you complete these data elements.

1.8.a-b. Name and Title of the Emergency Contact. Enter the name and title or job classification of the person designated as the emergency contact. If you have a toxic regulated substance, you may already have designated a facility emergency coordinator in your notification to your LEPC under EPCRA section 302.

1.8.c. Telephone Number of Emergency Contact. Enter the phone number, including area code, where the emergency contact can be reached during normal business hours. You will most likely enter the facility telephone number here. If your facility does not have a phone number, you may

enter the business phone number of the emergency contact, the phone number of adispatcher, or the customer service phone number.

1.8.d-e. 24-Hour Telephone Number & Pin Number. Enter the telephone number, including area code where the emergency contact can be reached during on-working hours. You will most likely enter the emergency contact's 24-hour "beeper" number. There is a space for a pin number, if applicable.

1.9.a. Facility or Parent Company E-Mail Address (Optional). You may choose to provide an e-mail address to direct inquiries from the public. It could be the person who developed your RMP or your public liaison office.

1.9.b. Facility Public Contact Phone Number (Optional). You may choose to provide a phone number to direct inquiries from the public. It could be the person who developed your RMP or your public liaison office.

1.9.c. Facility or Parent Company WWW Homepage Address (Optional). You may choose to provide the Internet address where you have more details on your accident prevention program, offsite consequence analysis, or other facility or corporate information.

1.10 LEPC (Optional). Enter the name of the LEPC for your planning district. This data element will help your LEPC find the facilities in its jurisdiction. In RMP*Submit, you will select the LEPC name from a pick list based on the facility county and zip code information that you have provided. If you do not know this information, you can either call your local fire department or refer to the LEPC/SERC Net on the Internet at http://www.rtk.net:80/lepc.

1.11 Number of Full-time Employees. Enter the number of full-time equivalent workers for this data element. To determine the number of full-time equivalent workers at your facility, add together part-time or seasonal workers to approximate an equivalent full-time worker and round to the nearest integer. Do not include contract employees.

For example, suppose a facility has 10 regular full-time employees, two part-time employees that each work 30 hours per week, and seven seasonal employees that each work 40 hours per week for three months of the year. You should count the two part-time employees as 3/4 of an employee each, because they work 3/4 that of a full-time employee and the seven seasonal workers as a 1/4 of a full-time employee each, for the same reason. As shown in the table below you get 13.25, which you should round to the nearest whole number. You should enter "13" for the number of full-time employees.

**EXAMPLE 4**

| Type of Employee | Number of Employees Times the Fraction of a Full-Time Employee | Full-Time Equivalent Employees |
|---|---|---|
| Full-time (40 Hours) | 10 X 1 | 10 |
| Part-time | 2 X 0.75 | 1.5 |

| | | |
|---|---|---|
| (30 hours) | | |
| Seasonal (3 months/year) | 7 X 0.25 | 1.75 |
| Total | | 13.25 (rounded to 13) |

1.12.a. Coverage by OSHA's Process Safety Management Standard. This data element applies to your facility as a whole and is not a process-by-process determination. Therefore, if one process at your facility is subject to the OSHA PSM standard, select this data element, even if the PSM process is not covered by this rule.

1.12.b. Coverage by EPCRA section 302. If you have an extremely hazardous substance (EHS) on-site in greater than the threshold planning quantity, you are subject to EPCRA 302 notification requirements. In this case, check this element, regardless of whether the EHS is a regulated substance or is held in a process below the 112(r) threshold quantity. Two quick hints:

(1) If you have a toxic regulated substance above the threshold quantity in a process, you are subject to EPCRA section 302 and must select this data element.

(2) If you have only flammable regulated substances, you are not subject to EPCRA section 302 for those substances.

1.12.c. Air Operating Permit ID. Title V of the Clean Air Act (40 CFR 70) requires major sources of air pollution to obtain permits. If your facility has a Title V operating permit, enter the permit number.

1.13. OSHA Star or Merit Ranking (Optional). Check the box if your facility has received a Star or Merit Ranking under OSHA's Voluntary Protection Program and thus is exempt from audits under § 68.220(b)(2) and (7).

1.14. Last Safety Inspection Date

1.15. Last Safety Inspection Performed by

Record the date of your last safety inspection by an external agency here and select the agency that performed the inspection. RMP*Submit has a pick list with the following values: OSHA, State OSHA, EPA, State EPA, fire department, or "Not Applicable." RMP*Submit will also let you enter your own answer.

1.16. Will this RMP involve Predictive Filing?

Predictive Filing is an RMP filing option that allows your facility to submit an RMP which includes regulated substances which may not actually be present at the facility at the time the RMP is submitted. This option is intended to assist facilities such as chemical warehouses, chemical distributors, batch processors and the like whose operations involve highly variable types and quantities of regulated substances but who are able to forecast their inventory with

some degree of accuracy. Under 40 CFR §68.190, a facility is required to update and re-submit its RMP no later than the date on which a new regulated substance is first present in a covered process above a threshold quantity. By using Predictive Filing, you will not be required to update and re-submit your RMP when you receive a new regulated substance if that substance was included in your latest RMP submission (as long as you receive it in a quantity that does not trigger a revised offsite consequence analysis as provided in 40 CFR §68.36).

If you use Predictive Filing, you should implement your Risk Management Program and prepare your RMP in exactly the same way as if all of the substances included in the RMP were actually present. This means that you must meet all rule requirements for each regulated substance for which you file, whether or not that substance is actually present on site at the time you submit your RMP. Depending on the substances for which you file, this may require you to perform additional worst-case and alternative-case scenarios and to implement additional prevention program elements. Note that if your facility uses this option you must still update and resubmit your RMP if you receive a new regulated substance which was not included in your latest RMP. Your facility must also continue to comply with the other update requirements stated in 40 CFR §68.190.

If your facility uses Predictive Filing, the RMP*Info data for your facility on the Internet will indicate that your facility has filed a predictive RMP. This will inform the user that some of the chemicals in your RMP may not actually be present on-site, but will not indicate which specific chemicals are on-site at any given time. Therefore, you may receive more frequent questions from the public, local officials, or implementing agencies about your actual chemical inventory. EPA recommends that you engage in more frequent dialogue with these parties, and in particular with local emergency planners, emergency responders, and community officials in order to update them on your current inventory of regulated substances.

1.17. Process-Specific Information

In this section of the registration, answer five questions for each covered process. As described in more detail later in these instructions, some facilities may implement distinct prevention programs for more than one production or storage unit that together comprise a single "process." You may report chemical identities, quantities, NAICS codes, and program levels by process even if those processes represent multiple prevention programs. You may also choose to list the separate units in the registration to parallel your prevention program, but you are not required to do so. A few examples follow the descriptions of the data elements below.

1.17.a. Program Level. In the final rule EPA established a method for determining whether your processes falls into Programs 1, 2, or 3. Refer to Chapter 2 of the General Guidance for information on determining the Program levels of your processes. Once you determine the Program level simply enter 1, 2, or 3 for this data element.

1.17.b. NAICS Code. The North American Industrial Classification System categorizes businesses by type by fitting them into descriptive categories that correspond to five-digit or six-digit codes. For example, pulp mills are NAICS code 32211, paper mills are 322121 or 322122,

and metal platers are 332813. The first three digits of a five or six-digit code define a major business sector and the last two or three digits indicate an establishment's specialty within the major sector. For this data element you should provide the NAICS code of the process, not your source as a whole. For example, if you manufacture chlorine, then process it to make cleaners, the chlorine manufacturing is in NAICS code 325181 and the cleaner manufacturing is in NAICS code 325612. If your processes are interconnected in this example, your chlorine manufacturing vessel is connected by pipes to the cleaner manufacturing process – enter each applicable code. Thus, if you are registering by process (rather than process unit), you may need to enter multiple NAICS codes.

You should determine the NAICS codes for your processes based on your activities on-site using the 1997 North American Industrial Classification System Manual. Appendix B of the General Guidance provides the NAICS codes for the industry sectors most likely to subject to 40 CFR Part 68. RMP*Submit will contain the full list. You may also access the full list on-line at www.census.gov/epcd/www/naics.html. To simplify your search, a list of the three-digit NAICS codes is presented below.

Code Business Activity
111 Crop Production
112 Animal Production
113 Forestry and Logging
114 Fishing, Hunting and Trapping
115 Support Activities for Agriculture and Forestry
211 Oil and Gas Extraction
212 Mining (except Oil and Gas)
213 Support Activities for Mining
221 Utilities
233 Building, Developing and General Contracting
234 Heavy Construction
235 Special Trade Contractors
311 Food Manufacturing
312 Beverage and Tobacco Product Manufacturing
313 Textile Mills
314 Textile Product Mills
315 Apparel Manufacturing
316 Leather and Allied Product Manufacturing
321 Wood Product Manufacturing
322 Paper Manufacturing
323 Printing and Related Support Activities
325 Chemical Manufacturing
326 Plastics and Rubber Products Manufacturing
327 Nonmetallic Mineral Product Manufacturing
331 Primary Metal Manufacturing
332 Fabricated Metal Product Manufacturing
333 Machinery Manufacturing
334 Computer and Electronic Product Manufacturing

335 Electrical Equipment, Appliance and Component Manufacturing
336 Transportation Equipment Manufacturing
337 Furniture and Related Product Manufacturing
339 Miscellaneous Manufacturing
421 Wholesale Trade, Durable Goods
422 Wholesale Trade, Nondurable Goods
441 Motor Vehicle and Parts Dealers
443 Electronics and Appliance Stores
444 Building Material and Garden Equipment and Supplies Dealers
445 Food and Beverage Stores
446 Health and Personal Care Stores
447 Gasoline Stations
452 General Merchandise Stores
453 Miscellaneous Store Retailers
454 Nonstore Retailers
481 Air Transportation
482 Rail Transportation
483 Water Transportation
484 Truck Transportation
485 Transit and Ground Passenger Transportation
486 Pipeline Transportation
487 Scenic and Sightseeing Transportation
488 Support Activities for Transportation
491 Postal Service
493 Warehousing and Storage Facilities
511 Publishing Industries
512 Motion Picture and Sound Recording Industries
513 Broadcasting and Telecommunications
532 Rental and Leasing Services
541 Professional, Scientific and Technical Services
561 Administrative and Support Services
562 Waste Management and Remediation Services
611 Educational Services
621 Ambulatory Health Care Services
622 Hospitals
712 Museums, Historical Sites and Similar Institutions
713 Amusement, Gambling and Recreation Industries
721 Accommodation
722 Foodservices and Drinking Places
811 Repair and Maintenance
812 Personal and Laundry Services
922 Justice, Public Order, and Safety
924 Administration of Environmental Quality Programs
927 Space Research and Technology
928 National Security and International Affairs
999 Unclassified Establishments

1.17.c.1. Chemical Name. For each covered process, provide the names of all regulated substances held above the threshold. Many regulated substances have synonyms; however, you must enter the name of the regulated substance as it appears in § 68.130. If you have a NFPA-4 flammable mixture containing regulated flammables, you may list it as a "flammable mixture." List all of the regulated substances contained in the mixture; however, only report the quantity of the entire mixture, not the individual substances.

1.17.c.2. CAS Number. Provide the Chemical Abstracts Service (CAS) registry number for each regulated substance held above the threshold in a covered process. CAS numbers are listed in 40 CFR § 68.130 and in EPA's General Guidance. RMP*Submit will automatically generate the CAS # based on the chemical name. For flammable mixtures, RMP*Submit will assign a dummy CAS number.

1.17.c.3. Quantity. For each regulated substance or mixture, estimate the maximum quantity (in pounds) held in the covered process at any one time during the calendar year to two significant digits. For example:

5,333 pounds should be reported as... 5,300 pounds

107,899 pounds should be reported as... 110,000 pounds

128,000 pounds should be reported as... 130,000 pounds

**Can I Use Maximum Quantity On-Site Data from my EPCRA Tier II Reports?**

Not directly. EPCRA Tier II reports require maximum quantity on-site in specified ranges. The registration asks for the maximum quantity in a process. Therefore, if your facility has several covered processes containing the same regulated substance above the threshold, estimate on a process-by-process basis the maximum quantity of the regulated substance in each process.

You may be able to use raw Tier II data to estimate the quantity of a regulated substance in a process. It is likely that in preparing your Tier II reports you estimated the quantity of a regulated substance in each process or building and then added the quantities together to estimate the total maximum on-site. Therefore, you can take the estimates you used to calculate your Tier II ranges for your RMP registration.

**How do I Report Maximum Quantity in a Process for Mixtures or Trade Name Products?**

Toxics. If the regulated toxic substance present in a process is part of a mixture or trade name product, determine the maximum quantity of the mixture or trade name product and then calculate the weight percent of the regulated toxic substance to report on your registration. Do not include the weight of the entire mixture or trade name product.

Flammables. If the regulated flammable substance is part of the process and the mixture meets the criteria of NFPA-4, report the weight of the mixture.

**EXAMPLE 1**

You use chlorine, a regulated substance, above the threshold quantity in three separate processes to produce three different products. These processes are categorized respectively by NAICS code as specialty cleaners, agricultural chemicals, and chemicals and chemical preparations not elsewhere classified (nec). You must, therefore, list chlorine separately as the regulated substance with the NAICS code that corresponds to each of the processes in which chlorine is used.

Chemical CAS Number NAICS Code

Chlorine 7782-50-5 325612 Polish and Other Sanitation Good Manufacturing

Chlorine 7782-50-5 32532 Pesticide and Other Agricultural Chemical Manufacturing

Chlorine 7782-50-5 325998 All Other Miscellaneous Chemical Product Manufacturing

**EXAMPLE 2**

Suppose you have 21,365 pounds of ammonia on-site in a covered process classified as other basic inorganic chemicals (NAICS code 32518) and do not have ammonia on-site in any other covered processes, report your ammonia maximum as:

Name CAS # NAICS Code Max. On-Site

Ammonia 7664-41-7 32518 21,000 lbs.

Now suppose that in addition to the 21,365 pounds you also have 25,600 pounds of ammonia on-site in another covered process classified as nitrogenous fertilizers (NAICS code 325311). In this case, report your ammonia maximums as:

Name CAS # NAICS Code Max. On-Site

Ammonia 7664-41-7 32518 21,000 lbs.

Ammonia 7664-41-7 325311 26,000 lbs.

Finally, suppose you have two covered processes both classified under NAICS code 32518 and both have ammonia above the threshold quantity. The first process has 21,344 lbs. of ammonia

and the other process has 32,400 lbs. of ammonia. Report your ammonia maximums for each process separately* as:

Name CAS # NAICS Code Max. On-Site

Ammonia 7664-41-7 32518 21,000 lbs.

Ammonia 7664-41-7 32518 32,000 lbs.

- Note that you would not aggregate the two quantities of ammonia even though both quantities are present in processes of the same NAICS Code. Doing so would characterize the maximum quantity as being in one process.

---

**EXAMPLE 3**

You received one shipment of a nitric acid solution last year that filled your 5,000-gallon storage tank. You know that the solution contains 95% nitric acid, which is a regulated chemical with a threshold quantity of 5,000 pounds.

First, convert gallons to pounds:

You know that the density of 95% nitric acid is about 12 pounds per gallon, so you calculate the total weight of solution by multiplying 5,000 gallons by 12 to get 60,000 pounds.

Then, calculate the portion of the solution attributable to the regulated toxic substance:

To calculate the weight of nitric acid, you multiply 60,000 pounds by 0.95 to get 57,000 pounds.

Report the nitric acid in this process as follows:

Name CAS # Max. On-Site

Nitric Acid 7697-37-2 57,000 lbs.

---

## E. OVERVIEW OF THE OFFSITE CONSEQUENCE ANALYSIS (SECTIONS 2-5)

You must submit data on:

1. A worst-case release scenario analysis applicable to all covered processes as follows:

Program 1 processes must be shown to have no public receptors within the distance to the endpoint in the worst-case analysis. Report a worst case for the regulated substance in the process that has the greatest distance to an endpoint.

If your facility has Program 2 or Program 3 processes, provide information on one worst-case release scenario representing all toxic regulated substances present above the threshold quantity, and one worst-case release scenario representing all flammable regulated substances present above the threshold quantity.

You may also need to submit an additional worst-case scenario for either hazard class (i.e., toxic or flammable), if a worst-case release from another process at your facility would potentially affect a different set of public receptors than those affected by your initial worst-case scenario(s).

An alternative release scenario, applicable to all Program 2 and Program 3 processes, as follows:

Alternative release scenarios should be those that may result in concentrations, overpressures, or radiant heat levels that reach the endpoints specified for these effects beyond the fence line of your facility.

Present one alternative release scenario for each regulated toxic substance held above the threshold quantity, including the substance considered in the worst-case analysis.

Present one alternative release scenario to represent all flammable substances held above the threshold quantity.

If you would like, you may include one map or diagram in electronic format for each release scenario that you report.

**SECTION 2 TOXICS: WORST CASE**

2.1.a. Chemical name. The name of the regulated chemical evaluated in the worst-case scenario.

2.1.b. Percent Weight of Chemical in Mixture. If your worst-case scenario involves the release of a mixture containing a regulated substance, Enter the percentage weight of the regulated substance in the mixture.

2.2. Physical state. Select the physical state of the chemical as it is released in the scenario.

Gas. Select if the chemical is a gas.

Liquid. Select if the chemical is a liquid.

2.3. Results based on. Select the source of your results for your worst-case release:

a. EPA's reference tables in the OCA Guidance

b. Reference tables in RMP Guidance for Ammonia Refrigeration

d. Reference tables in RMP Guidance for Drinking Water Systems

e. Reference tables in RMP Guidance for POTWs (Waste Water)

f. Reference tables in RMP Guidance for Warehouses

g. Reference tables in RMP Guidance for Chemical Distributors

h. EPA's RMP*Comp™

i. Areal Locations of Hazardous Atmospheres (ALOHA)

z. Other model (specify)

2.4. Scenario. Select which of the following describes your worst-case release scenario.

a. Gas release. A release of the substance in a vapor state.

b. Liquid spill and vaporization. A release of the substance in a liquid state with subsequent vaporization.

2.5. Quantity released. Indicate the quantity of the chemical released in pounds.

2.6. Release rate. Indicate the rate of release in pounds per minute.

2.7. Release duration. Indicate the length of time in minutes for the vessel, pipeline, or other source of the regulated substance to release all of its contents. For gases, the duration has been set by EPA at 10 minutes.

2.8. Wind speed. Unless you can demonstrate that local meteorological data applicable to the source show a higher minimum wind speed at all times during the last three years, this value has been set by EPA at 1.5 meters per second. If you can demonstrate higher minimums existed at all times, these minimums may be used. Provide the wind speed in meters per second.

2.9. Stability class. Unless you can demonstrate that local meteorological data applicable to the source show a less stable atmosphere at all times, this value has been set by EPA at "F" stability class. If you can demonstrate less stable conditions existed at all times, list the stability class used for the analysis.

2.10. Topography (select one). Indicate whether the local topography is urban or rural. Urban means that there are many obstacles in the immediate area; obstacles include buildings or trees. Rural means that there are few buildings or other obstacles in the immediate area.

2.11. Distance to endpoint. Indicate the distance to the endpoint in miles for the chemical, using the endpoint specified for the chemical in 40 CFR Part 68, Appendix A. Convert your modeling results into miles by dividing the distance in feet by 5280 or yards by 1760. Your response must

contain 2 significant digits. Refer to the following table to determine the degree of accuracy necessary for your answer:

| Distance to Endpoint | Level of Accuracy |
|---|---|
| less than 1 mile | nearest hundredth of a mile (e.g., 0.25 miles) |
| between 1 mile and 10 miles | nearest tenth of a mile (e.g., 5.6 miles) |
| 10 miles or greater | nearest mile (e.g., 12 miles) |

2.12. Residential population within distance to endpoint. Indicate the population within the distance to the endpoint. Populations must be estimated within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Populations estimated need only include residential populations and may be rounded to two significant digits (e.g., 5,500 people rather than 5,483). For populations between 10 and 100, round your answer to the nearest 10 people.

2.13. Public receptors within distance to endpoint. Public receptors must be identified within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Public receptor means locations offsite where members of the public may be exposed to toxic concentrations, radiant heat, or overpressure as a result of the release. Locations as noted below inhabited or occupied by the public at any time without restriction by the source are public receptors. You do not need to list specific locations or estimate populations at these locations. The presence of these receptors may be determined using local street maps. Select all that apply.

a. Schools. Public and private elementary, secondary, or post-secondary educational institutions (e.g., colleges).

b. Residences

c. Hospitals

d. Prisons/ Correctional facilities

e. Recreation areas. Including stadiums, parks, and public pools.

f. Commercial, office, or industrial areas. Including industrial parks, office buildings, shopping malls, commercial areas, and commercial farms.

2.14. Environmental receptors within distance to endpoint. Environmental receptors must be identified within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Environmental receptor means 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 as a result of the release and that can be identified on local U.S. Geological Survey maps. Select all that apply.

a. National or state parks, forests, or monuments

b. Officially designated wildlife sanctuaries, preserves, or refuges

c. Federal wilderness areas

2.15. Passive mitigation considered. Mitigation means specific activities, technologies, or equipment designed or deployed to capture or control substances upon loss of containment to minimize exposure of the public or the environment. Passive mitigation means equipment, devices, or technologies that function without human, mechanical, or other energy input. Select all that were considered in defining the release quantity or rate to the worst-case scenario.

a. Dikes. A low wall that acts as a barrier to prevent a spill from spreading.

b. Enclosures. Physical containment of the release within a structure (e.g., a building).

c. Berms. A mound or wall of earth at the top or bottom of a slope that prevents a spill from spreading.

d. Drains. A channel that carries off surface water.

e. Sumps. A pit or tank that catches liquid runoff for drainage or disposal.

f. Other (specify)

2.16. Graphics file name (Optional). You may submit one graphic file to illustrate each release scenario. Graphics will be accepted in either GIF or JPEG format.

**SECTION 3 TOXICS: ALTERNATIVE RELEASES**

Complete this section once for each toxic regulated substances held above the threshold quantity in a Program 2 or Program 3 process.

3.1.a. Chemical Name. The name of the regulated chemical evaluated in the alternative release scenario.

3.1.b. Percent Weight of Chemical in Mixture. If your alternative scenario involves the release of a mixture containing a regulated substance, Enter the percentage weight of the regulated substance in the mixture.

3.2. Physical state. Select the physical state of the chemical as it is released in the scenario.

a. Gas. Select if the chemical is a gas.

b. Liquid. Select if the chemical is a liquid.

c. Both Gas and Liquid. Select if both phases are present.

3.3. Results based on. Select the source of your results for your worst-case release.

a. EPA's reference tables in the OCA Guidance

b. Reference tables in RMP Guidance for Ammonia Refrigeration

d. Reference tables in RMP Guidance for Drinking Water Systems

e. Reference tables in RMP Guidance for POTWs (Waste Water)

f. Reference tables in RMP Guidance for Warehouses

g. Reference tables in RMP Guidance for Chemical Distributors

h. EPA's RMP*Comp™

i. Areal Locations of Hazardous Atmospheres (ALOHA)

z. Other model (specify)

3.4. Scenario. Select which of the following describes your alternative release scenario:

a. Transfer Hose Failure. Failure of the connection between two or more vessels.

b. Pipe Leak. Release through a rupture in a pipe.

c. Vessel Leak. Release through a rupture in a vessel.

d. Overfilling. Release due to filling a pipe, vessel, or other container past its capacity.

e. Rupture Disk/Relief Valve. Release due to failure of a rupture disk/relief valve to function properly. A rupture disk/relief valve is a valve that relieves pressure beyond a specified limit; a relief valve recloses upon return to normal operating conditions.

f. Excess Flow Valve Failure. Release caused by the failure of excess flow device to function properly and prevent surges from reaching downstream equipment.

g. Other (specify)

3.5. Quantity released. Enter the quantity of the chemical released in pounds.

3.6. Release rate. Enter the rate of release in pounds per minute.

3.7. Release duration. Indicate the length of time in hours and minutes for the vessel, pipeline, or other location of the regulated substance to release the specified quantity.

3.8. Wind speed. If you used the OCA Guidance or one of EPA's model program guidance documents, indicate 3 meters per second. If you modeled your scenario separately, indicate the wind speed used.

3.9. Stability class. If you used the OCA Guidance or one of EPA's model program guidance documents, list "D" stability. If you modeled your scenario separately, indicate the stability class used.

3.10. Topography (select one). Indicate whether the local topography is urban or rural. Urban means that there are many obstacles in the immediate area; obstacles include buildings or trees. Rural means that there are few buildings or other obstacles in the immediate area.

3.11. Distance to endpoint. Indicate the distance to the endpoint in miles for the chemical, using the endpoint specified for the chemical in 40 CFR Part 68, Appendix A. Convert your modeling results into miles by dividing the distance in feet by 5280 or yards by 1760. Your response must contain 2 significant digits. Refer to the following table to determine the degree of accuracy necessary for your answer.

| Distance to Endpoint | Level of Accuracy |
|---|---|
| less than 1 mile | nearest hundredth of a mile (e.g., 0.25 miles) |
| between 1 mile and 10 miles | nearest tenth of a mile (e.g., 5.6 miles) |
| 10 miles or greater | nearest mile (e.g., 12 miles) |

3.12. Residential population within distance to endpoint. Indicate the population within the distance to the endpoint. Populations must be estimated within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Populations estimated need only include residential populations and may be rounded to two significant digits (e.g., 5,500 people rather than 5,483). For populations between 10 and 100, round your answer to the nearest 10 people.

3.13. Public receptors within distance to endpoint. Public receptors must be identified within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Public receptor means locations offsite where members of the public may be exposed to toxic concentrations, radiant heat, or overpressure as a result of the release. Locations as noted below inhabited or occupied by the public at any time without restriction by the source are public receptors. You do not need to list specific locations or estimate populations at these locations. The presence of these receptors may be determined using local street maps. Select all that apply.

a. Schools. Public and private elementary, secondary, or post-secondary educational institutions (e.g., colleges).

b. Residences

c. Hospitals

d. Prisons/ Correctional facilities

e. Recreation areas. Including stadiums, parks, and public pools.

f. Commercial, office, or industrial areas. Including industrial parks, office buildings, shopping malls, commercial areas, and commercial farms.

3.14. Environmental receptors within distance to endpoint. Environmental receptors must be identified within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Environmental receptor means 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 as a result of the release and that can be identified on local U.S. Geological Survey maps. Select all that apply.

a. National or state parks, forests, or monuments

b. Officially designated wildlife sanctuaries, preserves, or refuges

c. Federal wilderness areas

3.15. Passive mitigation considered. Select all that were considered in defining the release quantity or rate of the alternative release scenario.

a. Dikes. A low wall that acts as a barrier to prevent a spill from spreading.

b. Enclosures. Physical containment of the release within a structure (e.g., a building).

c. Berms. A mound or wall of earth at the top or bottom of a slope that prevents a spill from spreading.

d. Drains. A channel that carries off surface water.

e. Sumps. A pit or tank that catches liquid runoff for drainage or disposal.

f. Other (specify). List a type other than what is listed above.

3.16. Active mitigation considered. Active mitigation means equipment, devices, or technologies that need human, mechanical, or other energy input to function. Select all that were considered in defining the release quantity or rate of the alternative release scenario.

a. Sprinkler Systems. A system for protecting a building against fire by means of overhead pipes which convey an extinguishing fluid through heat activated outlets.

b. Deluge Systems. A system to overflow an area of a release with water or other extinguishing fluid.

c. Water Curtain. A spray of water from a horizontal pipe through nozzles, the curtain may be activated manually or automatically.

d. Neutralization. Making a toxic chemical harmless through chemical reaction.

e. Excess Flow Valve. A system for diverting overflow.

f. Flares. A device for disposing of combustible gases from a chemical process by burning them in the open.

g. Scrubbers. A pre-release protection measure that uses water or aqueous mixtures containing scrubbing reagents to remove discharging liquids and possibly also treating the discharging chemical.

h. Emergency Shutdown Systems. Controls that are triggered when process limits are exceeded and that shut down that process.

i. Other (specify)

3.17. Graphics file name (Optional). You may submit one graphic file to illustrate each release scenario. Graphics will be accepted in either GIF or JPEG format.

**SECTION 4 FLAMMABLES: WORST CASE**

4.1. Chemical. The name of the regulated chemical evaluated in the worst-case scenario.

4.2. Results based on. Select the source of your results for your worst-case release.

a. EPA's reference tables in the OCA Guidance

c. Reference tables in RMP Guidance for Propane Storage Facilities

e. Reference tables in RMP Guidance for POTWs (Waste Water)

f. Reference tables in RMP Guidance for Warehouses

g. Reference tables in RMP Guidance for Chemical Distributors

h. EPA's RMP*Comp™

z. Other model (specify)

4.3. Scenario. This data element is fixed. The worst-case release scenario is a vapor cloud explosion, an explosion of a cloud made of a mixture of a flammable vapor or gas with air.

4.4. Quantity released. Indicate the quantity of the chemical released in pounds.

4.5. Endpoint used. This data element is fixed. For vapor cloud explosions, the endpoint is 1 PSI overpressure.

4.6. Distance to endpoint. Indicate the distance to the endpoint in miles for the chemical, using the endpoint specified for the chemical in 40 CFR Part 68, Appendix A. Convert your modeling results into miles by dividing the distance in feet by 5280 or yards by 1760. Your response must contain 2 significant digits. Refer to the following table to determine the degree of accuracy necessary for your answer.

| Distance to Endpoint | Level of Accuracy |
|---|---|
| less than 1 mile | nearest hundredth of a mile (e.g., 0.25 miles) |
| between 1 mile and 10 miles | nearest tenth of a mile (e.g., 5.6 miles) |
| 10 miles or greater | nearest mile (e.g., 12 miles) |

4.7. Residential population within distance to endpoint. Indicate the population within the distance to the endpoint. Populations must be estimated within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Populations estimated need only include residential populations and may be rounded to two significant digits (e.g., 5,500 people rather than 5,483). For populations between 10 and 100, round your answer to the nearest 10 people.

4.8. Public receptors within distance to endpoint. Public receptors must be identified within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Public receptor means locations offsite where members of the public may be exposed to toxic concentrations, radiant heat, or overpressure as a result of the release. Locations as noted below inhabited or occupied by the public at any time without restriction by the source are public receptors. You do not need to list specific locations or estimate populations at these locations. The presence of these receptors may be determined using local street maps. Select all that apply.

a. Schools. Public and private elementary, secondary, or post-secondary educational institutions (e.g., colleges).

b. Residences

c. Hospitals

d. Prisons/ Correctional facilities

e. Recreation areas. Including stadiums, parks, and public pools.

f. Commercial, office, or industrial areas. Including industrial parks, office buildings, shopping malls, commercial areas, and commercial farms.

4.9. Environmental receptors within distance to endpoint. Environmental receptors must be identified within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Environmental receptor means 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 as a result of the release and that can be identified on local U.S. Geological Survey maps. Select all that apply.

a. National or state parks, forests, or monuments

b. Officially designated wildlife sanctuaries, preserves, or refuges

c. Federal wilderness areas

4.10. Passive mitigation considered. Select all that were considered in defining the release quantity or rate for the worst-case scenario.

a. Dikes. A low wall that acts as a barrier to prevent a spill from spreading.

b. Fire Walls. A wall constructed to prevent the spread of fire.

c. Blast Walls. A heavy wall used to isolate buildings or areas that contain highly combustible or explosive materials.

d. Enclosures. Physical containment of the release within a structure (e.g., a building).

f. Other (specify)

4.11. Graphics file name (Optional). You may submit one graphic file to illustrate each release scenario. Graphics will be accepted in either GIF or JPEG format.

**SECTION 5 FLAMMABLES: ALTERNATIVE RELEASES**

Complete this section once for all flammable regulated substances held above the threshold quantity in a Program 2 or Program 3 process.

5.1. Chemical. The name of the regulated chemical evaluated in the alternative release scenario.

5.2. Results based on (select one). Select the source of your results for your alternative release.

a. EPA's reference tables in the OCA Guidance

c. Reference tables in RMP Guidance for Propane Storage Facilities

e. Reference tables in RMP Guidance for POTWs (Waste Water)

f. Reference tables in RMP Guidance for Warehouses

g. Reference tables in RMP Guidance for Chemical Distributors

h. EPA's RMP*Comp™

z. Other model (specify)

5.3. Scenario. Select one of the following:

a. Vapor Cloud Explosion. An explosion of a cloud made of a mixture of a flammable vapor or gas with air.

b. Fireball. The atmospheric burning of a fuel-air cloud in which the energy is mostly emitted in the form of radiant heat. As buoyancy forces of the hot gases begin to dominate, the burning cloud rises and becomes spherical in shape. Often caused by the ignition of a vapor cloud of a flammable substance.

c. BLEVE. Boiling Liquid Expanding Vapor Explosion (BLEVE) is used to describe the sudden rupture of a vessel/system containing liquefied flammable gas under pressure due to radiant heat flux. The pressure burst and the flashing of the liquid to vapor creates a blast wall and potential missile damage, and immediate ignition of the expanding fuel-air mixture leads to an intense combustion creating a fireball.

d. Pool Fire. The combustion of material evaporating from a layer of liquid at the base of the fire.

e. Jet Fire. Gas discharging or venting from a rupture will form a gas jet that "blows" into the atmosphere in the direction the whole is facing, all the while entraining and mixing with air. If the gas is flammable and encounters an ignition source, a flame jet may form.

f. Vapor Cloud Fire. A flash fire results from the ignition of a released flammable cloud in which there is essentially no increase in the combustion rate.

g. Other (specify)

5.4. Quantity released. Indicate the quantity of the chemical released in pounds.

5.5. Endpoint used. For vapor cloud explosions, the endpoint is 1 PSI overpressure; for a fireball the endpoint is 5 kw/m2 for 40 seconds. A lower flammability limit (expressed as a percentage) may be listed as specified in NFPA documents or other generally recognized sources; these are listed in the OCA Guidance.

5.6. Distance to endpoint. Indicate the distance to the endpoint in miles for the chemical, using the endpoint specified for the chemical in 40 CFR Part 68, Appendix A. Convert your modeling results into miles by dividing the distance in feet by 5280 or yards by 1760. Your response must contain 2 significant digits. Refer to the following table to determine the degree of accuracy necessary for your answer.

| Distance to Endpoint | Level of Accuracy |
|---|---|
| less than 1 mile | nearest hundredth of a mile (e.g., 0.25 miles) |
| between 1 mile and 10 miles | nearest tenth of a mile (e.g., 5.6 miles) |
| 10 miles or greater | nearest mile (e.g., 12 miles) |

5.7. Residential population within distance to endpoint. Indicate the population within the distance to the endpoint. Populations must be estimated within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Populations estimated need only include residential populations and may be rounded to two significant digits (e.g., 5,500 people rather than 5,483). For populations between 10 and 100, round your answer to the nearest 10 people.

5.8. Public receptors within distance to endpoint. Public receptors must be identified within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Public receptor means locations offsite where members of the public may be exposed to toxic concentrations, radiant heat, or overpressure as a result of the release. Locations as noted below inhabited or occupied by the public at any time without restriction by the source are public receptors. You do not need to list specific locations or estimate populations at these locations. The presence of these receptors may be determined using local street maps. Select all that apply.

a. Schools. Public and private elementary, secondary, or post-secondary educational institutions (e.g., colleges).

b. Residences

c. Hospitals

d. Prisons/ Correctional facilities

e. Recreation areas. Including stadiums, parks, and public pools.

f. Commercial, office, or industrial areas. Including industrial parks,
office buildings, shopping malls, commercial areas, and commercial farms.

5.9. Environmental receptors within distance to endpoint. Environmental receptors must be identified within a circle with a center at the point of the release and a radius determined by the distance to the endpoint. Environmental receptor means 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 as a result of the release and that can be identified on local U.S. Geological Survey maps. Select all that apply.

a. National or state parks, forests, or monuments

b. Officially designated wildlife sanctuaries, preserves, or refuges

c. Federal wilderness areas

5.10. Passive mitigation considered. Select all that were considered in defining the release quantity or rate for the alternative scenario.

a. Dikes. A low wall that acts as a barrier to prevent a spill from spreading.

b. Fire Walls. A wall constructed to prevent the spread of fire.

c. Blast Walls. A heavy wall used to isolate buildings or areas that contain highly combustible or explosive materials.

d. Enclosures. Physical containment of the release within a structure (e.g., a building).

f. Other (specify)

5.11. Active mitigation considered. Active mitigation means equipment, devices, or technologies that need human, mechanical, or other energy input to function. Select all that were considered in defining the release quantity or rate of the alternative release scenario.

a. Sprinkler Systems. A system for protecting a building against fire by means of overhead pipes which convey an extinguishing fluid through heat activated outlets.

b. Deluge Systems. A system to overflow an area of a release with water or other extinguishing fluid.

c. Water Curtain. A spray of water from a horizontal pipe through nozzles, the curtain may be activated manually or automatically.

d. Excess Flow Valve. A system for diverting overflow.

e. Other (specify)

5.12. Graphics file name (Optional). You may submit one graphic file to illustrate each release scenario. Graphics will be accepted in either GIF or JPEG format.

**SECTION 6: FIVE YEAR ACCIDENT HISTORY**

Although much of the RMP is a summary of the risk management program elements at your facility, this portion of the RMP is identical to the five-year accident history provision described at § 68.42. Therefore, for this section of the RMP you can simply insert the data you compiled for § 68.42. Only report accident history for listed substances. The following information must be included in your accident history:

6.1. Date. Indicate the date on which the accident occurred.

6.2. Time. Indicate the time the release began.

6.3. NAICS Code of Process. As described in Registration, the NAICS code system classifies businesses by type by fitting them into descriptive categories that correspond to five-digit or six-digit codes. Appendix B of the General Guidance provides the NAICS codes for the industry sectors most likely to subject to 40 CFR Part 68. RMP*Submit will contain a full list of NAICS codes. You may also access the full list on-line at www.census.gov/epcd/www/naics.html.
6.4. Release Duration. Indicate the approximate length of time of the release in hours and minutes. (Format: HHH:MM)

6.5.a Chemical Name. Indicate the regulated substance(s) released. Use the name of the substance as listed rather than a synonym. If the release was a NFPA-4 flammable mixture containing regulated flammables, you may list it as a "flammable mixture" and list all of the regulated substances contained in the mixture. For the quantity released, you only report the quantity of the entire mixture, not the individual substances. Only report chemicals that are listed substances.

6.5.b. Percent Weight of Toxic Chemical in Mixture. If a toxic substance was in a mixture when released, indicate the percentage weight of thesubstance in the mixture.

6.5.c. Quantity Released. Estimate the amount of each substance released in pounds. The amount should be estimated to two significant digits, or as close as possible. For example, if you estimate that the release was between 850 and 900 pounds, provide a best guess. EPA recognizes that you may not know precise quantities.

6.6. Release Event. Indicate which of the following release events best describes your accident. Select at least one:

a. Gas Release. A gas release is a release of the substance in a vapor state. If you hold a gas liquefied under refrigeration, report the release as a liquid spill.

b. Liquid Spill/Evaporation. A liquid spill/ evaporation is a release of the substance in a liquid state with subsequent vaporization.

c. Fire. A fire is a product (e.g., fuel) in a state of combustion.

d. Explosion. An explosion is a rapid chemical reaction with the production of noise, heat, and violent expansion of gases.

6.7. Release Source. Select at least one.

a. Storage Vessel. A storage vessel is a container for storing or holding gas or liquid. Storage vessels include transportation containers being used for on-site storage.

b. Piping. Piping refers to a system of tubular structures or pipes used to carry a fluid or gas.

c. Process Vessel. A process vessel is a container in which substances under certain conditions (e.g., temperature, pressure), participate in a process (e.g., substances are manufactured, blended to form a mixture, reacted to convert them into some other final product or form, or heated to purify).

d. Transfer Hose. A transfer hose is a tubular structure used to connect, often temporarily, two or more vessels.

e. Valve. A valve is a device used to regulate the flow in piping systems or machinery. Relieve valves open to release pressure in vessels.

f. Pump. A pump is a device that raises, transfers, or compresses fluids or that attenuates gases by suction or pressure or both.

g. Joint. The surface at which two or more mechanical components are united.

h. Other. Specify other source of the release.

6.8. Weather Conditions at Time of Event. This information is important to those concerned with modeling the effects of accidents. Reliable information from those involved in the incident or from an on-site weather station is ideal. However, this rule does not require your facility to have a weather station. If you do not have an onsite weather station, use information from your local weather station, airport, or other source of meteorological data. To the extent possible, complete the following:

a.i. Wind Speed. Wind speed is an estimate of how fast the wind is traveling.

a.ii. Wind Speed Units. Indicate the units in which the speed is expressed as either miles per hour, meters per second, or knots.

a.iii. Wind Direction. Wind direction is the direction from which the wind comes. For example, a wind that blows from east to west would be described as having an eastern wind direction. Describe wind direction as one of the 16 standard compass readings, although abbreviations are acceptable. For example, wind direction may be reported as South or S, Northeast or NE, or South-Southwest or SSW.

b. Temperature. The ambient temperature at the scene of the accident in degrees Fahrenheit. If you did not keep a record, you can use the high (for daytime releases) or low (nighttime releases) for the day. Local papers publish these data.

c. Stability Class. Depending on the amount of incoming solar radiation as well as other factors, the atmosphere may be more or less turbulent at any given time. Meteorologists have defined six atmospheric stability classes, each representing a different degree of turbulence in the atmosphere. When moderate to strong incoming solar radiation heats air near the ground, causing it to rise and generating large eddies, the atmosphere is considered unstable, or relatively turbulent. Unstable conditions are associated with stability classes A and B. When solar radiation is relatively weak, air near the surface has less of a tendency to rise and less turbulence develops. In this case, the atmosphere is considered stable or less turbulent with weak winds. The stability class is E or F. Stability classes D and C represent conditions of more neutral stability, or moderate turbulence. Neutral conditions are associated with relatively strong wind speeds and moderate solar radiation.

**Exhibit 1**
**Atmospheric Stability Classes**

| Surface Wind Speed at 10 Meters | | Day | | | Night | |
|---|---|---|---|---|---|---|
| Meters per second | Miles per hour | Incoming Solar Radiation | | | Thinly Overcast or 4/8 low cloud | 3/8 Cloud |
| | | Strong* | Moderate | Slight** | | |
| <2 | <4.5 | A | A-B | B | | |
| 2-3 | 4.5-7 | A-B | B | C | E | F |
| 3-5 | 7-11 | B | B-C | C | D | E |
| 5-6 | 11-13 | C | C-D | D | D | D |
| >6 | >13 | C | D | D | D | D |

* Sun high in the sky with no clouds.
** Sun low in the sky with no clouds.

d. Precipitation Present. Hail, mist, rain, sleet, or snow. Indicate "yes" or "no" based on whether there was precipitation at the time of the accident.

e. Unknown weather conditions. If you have no record for any of the weather data, indicate "unknown". EPA recognizes that you may not have weather data for accidents that have occurred in the past. You must, however, collect these data during future accident investigations.

6.9. On-site impacts. Complete the following about on-site effects.

a. Deaths. Indicate the number of on-site deaths that are attributed to the accident or mitigation activities. On-site deaths include anyone who was killed by direct exposure to toxic concentrations, radiant heat, or overpressures from the accidental release or from indirect consequences of a vapor cloud explosion from an accidental release (e.g. a window shattering after an explosion). Specify the deaths as:

a.i. Workers & contract employees

a.ii. Public responders

a.iii. Public (example, visitors)

b. Injuries. An injury is any effect that results either from direct exposure to toxic concentrations, radiant heat, or overpressures from the accidental release or from indirect consequences of a vapor cloud explosion from an accidental release (e.g., a window shattering after an explosion) and that requires medical treatment or hospitalization. Medical treatment means treatment, other than first aid, administered by a physician or registered professional personnel under standing orders from a physician. Your OSHA occupational injury and illness log will help complete these items. Specify the injuries as:
a.i. Workers & contract employees

a.ii. Public responders

a.iii. Public (example, visitors)

c. Property Damage. Estimate the value of the equipment or business structures (for your business alone) that were damaged by the accident or mitigation activities. Record the value in American dollars. Insurance claims may provide this information. Do not include any losses that you may have incurred by business interruption.

**Questions and Answers**

Q. What does significant on-site property damage mean?

A. Any on-site property damage that exceeds $50,000 would be considered significant. Depending on your circumstances, lesser levels of damage may also be significant. You must make a reasonable judgment as to what level of damage is significant for your facility.

Q. What level of offsite property damage triggers reporting?

A. Any level of known offsite property damage means that the accident must be included in the five-year accident history. You are not required to conduct survey to determine if such damage occurred, but if you know, or should have known (e.g., it was reported in the newspapers), that damage occurred, you must include the accident

6.10. Known offsite impacts. These are impacts that you are aware of (e.g., from media reports) or that were reported to your facility. You are not required to conduct an additional investigation to determine offsite impacts.

a.Deaths. Indicate the number of offsite deaths that are attributable to the accident or mitigation activities. Offsite deaths means the number of community members who were killed as a result

of exposure to toxic chemicals, fire, explosions, and debris/projectiles from explosions. Responders killed while onsite responding to the release are considered on-site deaths and should not be reported here.

b. Hospitalizations. Indicate the number of community members requiring hospitalization. Hospitalization means any effect that results either from direct exposure to toxic concentrations, radiant heat, or overpressures from accidental releases or from indirect consequences of a vapor cloud explosion from an accidental release (e.g., a window shattering after an explosion) and that requires hospitalization.

c. Other Medical Treatment. Indicate the number of community members requiring medical treatment. Medical treatment means any effect that results either from direct exposure to toxic concentrations, radiant heat, or overpressures from accidental releases or from indirect consequences of a vapor cloud explosion from an accidental release (e.g., a window shattering after an explosion) and that requires medical treatment.

d. Evacuated. Estimate the number of members of the community who were evacuated to prevent exposure that might have resulted from the accident. A total count of the number of people evacuated is preferable to the number of houses evacuated. People who were ordered to move simply to improve access to the site for emergency vehicles are not considered to have been evacuated.

e. Sheltered-in-place. Estimate the number of members of the community who were sheltered-in-place during the accident. Sheltering-in-place is the official designation when the incident commander orders community members to remain inside their residence or place of work until the emergency is over to prevent exposure to the substance. Usually these are associated with an emergency broadcast or similar method of mass notification by response agencies.

f. Property Damage. Estimate the value of the equipment or structures offsite that were damaged by the accident or mitigation activities. Record the value in American dollars. Insurance claims may provide this information. There is no lower limit below which you would not have to report.

g. Environmental Damage. Indicate whether any environmental damage occurred and specify the type. The damage is not limited to environmental receptors listed in the rule. Any damage to the environment (e.g., dead or injured animals, defoliation, water contamination) must be considered. You are not, however, required to conduct surveys to determine whether such impact occurred. Select all that apply.
g.1. Fish or animal kills.

g.2. Tree, lawn, shrub, or crop damage

g.4. Water contamination

g.4. Soil contamination

g.5. Other (specify)

6.11. Initiating event. Select the one initiating event that best describes the immediate cause of the accident.

a. Equipment Failure. A device or piece of equipment failed or did not function as designed. For example, the vessel wall corroded or cracked.

b. Human Error. An operator performed a task improperly, either by failing to take the necessary steps or by taking the wrong steps.

c. Natural (weather conditions, earthquake). Weather conditions, such as lightning, hail, ice storms, tornados, hurricanes, floods, or high winds, caused the accident.

d. Unknown.

6.12. Contributing factors. These are factors that contributed to the accident occurring, but were not the initiating event. If you conducted an investigation of the release, you should have identified factors that led to the initiating event. Select all that apply.

a. Equipment Failure. A device or piece of equipment failed to contain substance or did not function as designed, thereby allowing a substance to be released.

b. Human error. An operator performed an operation improperly or made a mistake which resulted in an accident.

c. Improper Procedures. The procedure did not reflect the proper method of operation, the procedure omitted steps that affected the accident, or the procedure was written in a manner that allowed for misinterpretation of the instructions.

d. Overpressurization. The process was operated at pressures exceeding the design working pressure.

e. Upset Condition. Release was caused by incorrect process conditions (e.g., increased temperature or pressure).

f. By-pass Condition. The failure occurred in a pipe, channel, or valve that diverts fluid flow from the main pathway when design process or storage conditions are exceeded (e.g., overpressure). By-pass conditions may be designed to release the substance to restore acceptable process or storage conditions and prevent more severe consequences (e.g., explosion).

g. Maintenance Activity/Inactivity. The failure occurred because of maintenance activity or inactivity. For example, the storage racks remained unpainted for so long that corrosion caused the metal to fail.

h. Process Design Failure. The failure resulted from an inherent flaw in the design of the process (e.g., pressure needed to make product exceeds the design pressure of the vessel).

i. Unsuitable Equipment. The equipment used was incorrect for the process. For example, the forklift was too large for the corridors.

j. Unusual Weather Conditions. Weather conditions, such as lightning, hail, ice storms, tornados, hurricanes, floods, or high winds caused the accident.

k. Management Error. The failure occurred because management did not exercise its managerial control to prevent the situation from arising. This is usually used to describe faulty procedures, inadequate training, inadequate oversight, or failure to follow existing administrative procedures.

l. Other (specify)

6.13. Offsite responders notified. Indicate whether response agencies (e.g., police, fire, medical services) were contacted.

6.14. Changes introduced as a result of the accident. Indicate any measures that you have taken at the facility to prevent recurrence of the accident. Select at least one.

a. Improved/Upgraded Equipment. A device or piece of equipment that did not function as designed was repaired or replaced.

b. Revised Maintenance. Maintenance procedures were clarified or changed to ensure appropriate and timely maintenance including inspection and testing (i.e., increasing the frequency of inspection or adding a testing method).
c. Revised Training. Training programs were clarified or changed to ensure that employees and contract employees are aware of and are practicing correct safety and administrative procedures.

d. Revised Operating Procedures. Operating procedures were clarified or changed to ensure that employees and contract employees are trained on appropriate operating procedures.

e. New Process Controls. New process designs and controls were installed to correct problems and prevent recurrence of an accidental release.

f. New Mitigation Systems. New mitigation systems were initiated to limit the severity of accidental releases.

g. Revised Emergency Response Plan. The emergency response plan was revised.

h. Changed Process. Process was altered to reduce the risk (e.g., process chemistry was changed).

i. Reduced Inventory. Inventory was reduced at the facility to reduce the potential release quantities and the magnitude of the hazard.

j. None. No changes initiated at facility as a result of the accident (i.e., none were necessary or technically feasible). There may be some accidents that could not have been prevented because they were caused by events that are too rare to merit additional steps. For example, if a tornado hit your facility and you are located in an area where tornados are very rare, it may not be reasonable to design a "tornado-proof" process even if it is technically feasible.

k. Other (specify).

## OVERVIEW OF PREVENTION PROGRAMS (SECTIONS 7-8)

You should understand that each "answer" you provide in your RMP is interconnected to all other "answers." EPA will review the data elements in the RMP in relation to one another. Therefore, you should be consistent in how you answer related questions. Much of the data requested in the prevention program portion of the RMP are dates; therefore, be certain that the dates you enter are consistent with each other or that you can explain an inconsistency. For example, if the date of your last major change is January 1999, your process safety information should have been updated at the same time. If the safety information was not updated then, you should be able to explain why no review or update was needed, if the implementing agency asks. You are not required to include the explanation in the RMP, but you will want to be sure you can provide it if asked. How Must Prevention Program Data Be Reported?

The OSHA definition of "process" (which EPA has adopted), particularly when applied to interconnected or co-located production and storage units, is so inclusive that multiple production units and, in some cases, entire sources might be considered to be a single process. OSHA and EPA have always recognized that prevention program implementation could involve dividing these aggregated units into their components.

As a result, data for both Program 2 and Program 3 prevention programs must be submitted on each part of the process for which a separate hazard review or PHA (analyses that are conducted by different people or at different times) was conducted. For example, a propane distribution source that conducted one hazard review on its two storage tanks would submit data on one prevention program. A large refinery that conducted 25 PHAs on its 25 production units would submit information on 25 prevention programs.

## SECTION 7: PREVENTION PROGRAM FOR PROGRAM 3 PROCESSES

7.1. NAICS Code for Process. Enter the five- or six-digit NAICS code for the process or part of the process. You must determine the NAICS codes for your processes based on your activities on-site. Provide the code of the process, or the part of the process, not the NAICS code of your source as a whole. For example, if you are an agricultural retailer, but sell ammonia as a fertilizer and propane as a fuel, then your overall NAICS code is 42291 (farm supplies), but the propane sales are NAICS code 454312.

Depending on the degree to which NAICS subdivides an industry sector, your code may be either five or six digits. The NAICS code that you choose must be one of the ones you entered in the Registration Section for the covered process.

7.2. Chemical Name(s). For each prevention program, provide the names of all regulated substances held above the threshold in the covered units. If you have an NFPA-4 flammable mixture containing regulated flammables, you may list it as a flammable mixture. You do not need to disaggregate it into its individual substances.

7.3. Date on which Safety Information was Last Reviewed/Updated. Enter the date that you most recently reviewed or revised the safety information.

7.4. Process Hazard Analysis (PHA). Provide the following information for the PHA section of the RMP:

a. Date of last PHA update. The date you completed or updated your most recent PHA;

b. Technique used. Whether you used any or all of the following techniques to evaluate the hazards of your process or part of the process (see Chapter 8, Appendix A, of the General Guidance for a description of these techniques). Select one:

b.1. What If

b.2. Checklist

b.3. What If/Checklist (combined)

b.4. HAZOP

b.5. Failure Mode & Effects Analysis

b.6. Fault Tree Analysis

b.7. Other (specify)

7.4.c. Expected date of completion of any changes resulting from PHA. The date you expect to complete any changes recommended by the PHA. Note that not all recommendations will result in changes. Record the date of expected final implementation of any changes that will be made as a result of PHA recommendations. This may be blank if there were no changes or all changes are complete.

7.4.d. Major hazards identified. Select all that apply. Any major hazards that were identified for the Program 3 process or part of the process as a result of the PHA. Major hazards are described below.

**EXHIBIT 7.4D**
**MAJOR HAZARDS**

| MAJOR HAZARD | DESCRIPTION |
|---|---|
| TOXIC RELEASE | If an accidental release occurred, a regulated toxic substance could be |

| MAJOR HAZARD | DESCRIPTION |
|---|---|
| | released. |
| **FIRE** | Process upsets, leaks, equipment failure, etc., could result in a fire. For listed flammables, fire will always be a major hazard. Fire, however, may also be a hazard in other processes and could cause a toxic release. |
| **EXPLOSION** | Confined or unconfined vapor cloud explosions. For listed flammables, explosion will generally be a major hazard. (If individual vessels hold less than 10,000 pounds, and not interconnected, and are outside the explosion may not be a hazard.) Explosion may also be a hazard for toxics, especially those handled under extreme conditions. |
| **RUNAWAY REACTION** | An uncontrolled reaction that proceeds at an increasing rate. |
| **POLYMERIZATION** | A chemical reaction that produces the bonding of two or more monomers. |
| **OVERPRESSURIZATION** | Instantaneous energy release or detonation. |
| **CORROSION** | The presence of the regulated substance that could lead to destruction or equipment and a release. Corrosion may be a major hazard for substances identifies as corrosives on MSDSs unless the equipment used limits the hazard. |
| **OVERFILLING** | Filling a tank or vessel beyond its maximum safe capacity. |
| **CONTAMINATION** | A release could occur if inappropriate substances are introduced into storage or process vessels. Contamination may be a major hazard when controlling inappropriate substances (e.g., $H_2O$) is difficult. |
| **EQUIPMENT FAILURE** | Equipment failure is likely to be a major hazard for most processes, because such failure could lead to a release. Equipment failure includes cracks, weld failures, disk failures, ruptures, pump/gauge/control system failures, etc. |
| **LOSS OF COOLING, HEATING, ELECTRICITY, INSTRUMENT AIR** | These losses could be major hazards, if they could lead to releases. For example, loss of cooling could lead to an increase in pressure and failure of a vessel or pipe and a loss of heating or power could lead to unstable processes. These conditions are less likely to be major hazards for substances handled at atmospheric temperatures and pressures. |
| **EARTHQUAKE** | Report earthquakes as a major hazard only if they occur frequently or are likely to occur frequently at your site such that you plan and design for them (e.g., the frequency of concern for earthquakes is a 10% probability in 50 yrs). |
| **FLOODS (FLOOD PLAIN)** | Report floods as a major hazard only if they occur frequently or are likely to occur frequently at your site such that you plan and design for them. |
| **TORNADOES** | Report tornadoes as a major hazard only if they occur frequently or are |

| MAJOR HAZARD | DESCRIPTION |
|---|---|
| | likely to occur frequently at your site such that you plan and design for them. |
| **HURRICANES** | Report hurricanes as a major hazard only if they occur frequently or are likely to occur frequently at your site such that you plan and design for them. |
| **OTHER** | Specify any other major hazards not listed above. |

7.4.e. Process controls in use (select all that apply). All of the process controls used on the Program 3 process or part of the process. Process controls are equipment and associated procedures used to prevent or limit releases and are described below.

**EXHIBIT 7.4E**
**PROCESS CONTROLS**

| PROCESS CONTROLS | DESCRIPTION |
|---|---|
| **VENTS** | An opening provided for the discharge of pressure or release of pressure from tanks, vessels, or processing equipment. |
| **RELIEF VALVES** | A valve that relieves pressure beyond a specified limit and recloses upon return to normal operating procedures. |
| **CHECK VALVES** | A device for automatically limiting the flow in a piping system to a single direction. |
| **SCRUBBERS** | A pre-release protection measure that uses water or aqueous mixtures containing scrubbing reagents to remove discharging liquids and may treat the discharging chemical. |
| **FLARES** | A pre-release protection measure used for flammable gases and vapors to remove and possible treat discharged liquids. |
| **MANUAL SHUTOFFS** | Manual controls of the shutoff flow to a pipe or vessel. |
| **AUTOMATIC SHUTOFFS** | Controls the shutoff flow to a pipe or vessel and are triggered automatically when process conditions are exceeded. |
| **INTERLOCKS** | A switch or other device that prevents activation of a piece of equipment when a protective door is open or some other hazard exists. |
| **ALARMS AND PROCEDURES** | Systems that operate a warning device after the occurrence of a hazardous condition and procedures to activate the alarm system. |
| **KEYED BYPASS** | A bypass system that is activated by a control signal. |
| **EMERGENCY AIR SUPPLY** | A backup system to provide air to a process when the regular air supply fails. |
| **EMERGENCY POWER** | Backup power systems. |
| **BACKUP PUMP** | A secondary pump intended to serve the same function as the primary pump if the primary pump fails. |
| **GROUNDING EQUIPMENT** | Devices that ground electrical equipment to avoid explosions. |
| **INHIBITOR ADDITION** | A substance that is added to a reaction that is capable of stopping or retarding a chemical reaction. |
| **RUPTURE DISKS** | A device that relieves pressure beyond a specified limit. |

| PROCESS CONTROLS | DESCRIPTION |
|---|---|
| **EXCESS FLOW DEVICE** | Flow-limiting equipment that protects downstream equipment from surges. |
| **QUENCH SYSTEM** | A system that cools by removing excess heat or immersing liquid into a cooling medium. |
| **PURGE SYSTEM** | A system that replaces the atmosphere in a container with an inert substance to prevent the formations of an explosive mixture. |
| **OTHER** | Specify any other process controls that you may use on your process and that are not specified above. |

7.4.f. Mitigation systems (select all that apply). All of the mitigation systems you have in place to control a release from the Program 3 process or part of the process. Mitigation systems are described below.

**EXHIBIT 7.4F**
**MITIGATION SYSTEMS**

| MITIGATION SYSTEMS | DESCRIPTION |
|---|---|
| **SPRINKLER SYSTEMS** | A system for protecting a building against a fire by means of overhead pipes that release an extinguishing fluid through heat activated outlets. |
| **DIKES** | A low wall that acts as a barrier to prevent a spill from spreading. |
| **FIRE WALLS** | A wall constructed to prevent the spread of fire. |
| **BLAST WALLS** | A heavy wall used to isolate buildings or areas that contain highly combustible or explosive materials. |
| **DELUGE SYSTEM** | A system to overflow an area with a release of water or other extinguishing fluid. |
| **WATER CURTAIN** | A spray of water from a horizontal pipe through nozzles. The curtain may be activated manually or automatically. |
| **ENCLOSURE** | Something that facilitates the physical containment of a release within a structure (e.g., a building). |
| **NEUTRALIZATION** | Controlling a release by neutralizing the release chemical. |
| **OTHER** | Specify any other mitigation systems you may have in place on your process and that are not listed above. |

7.4.g. Monitoring/detection systems (select all that apply). All of the monitoring and detection systems you have installed to detect a release of a regulated substance from the Program 3 process or part of the process. Monitoring and detection systems are described below.

**EXHIBIT 7.4G**
**MONITORING AND DETECTION SYSTEMS**

| MONITORING & DETECTION SYSTEMS | DESCRIPTION |
|---|---|
| PROCESS AREA DETECTORS | Detection systems located on or close to process equipment. Detection systems include indicator tubes, and chromatographic, spectrometric, electrochemical, and colorimetric gas analysis. |
| PERIMETER MONITORS | Integrated detection networks at the source boundary. Detection systems can include fluorescent $SO_2$ analyzers, photoelectric tape sensors, or electrolytic chlorine detectors. |
| OTHER | Specify any other monitoring and detection systems you have in place and that are not listed above. |

7.4.h. Changes since last PHA update (select all that apply). All of the changes made to the Program 3 process or part of the process since the last PHA. Changes resulting from the PHA are described in Exhibit 6.

**EXHIBIT 7.4H**
**CHANGES SINCE THE LAST PHA OR HAZARD REVIEW**

| CHANGES SINCE LAST PHA OR HAZARD REVIEW | DESCRIPTION |
|---|---|
| REDUCTION IN CHEMICAL INVENTORY | This is a decrease in the quantity of regulated substances stored on-site. |
| INCREASE IN CHEMICAL INVENTORY | This is an increase in the quantity of regulated substances stored on-site. |
| CHANGE IN PROCESS PARAMETERS | Examples of changes in process parameters include an increase or decrease in temperature, pressure, flow rates, etc. |
| INSTALLATION OF PROCESS CONTROLS | The addition of controls such as those described in Exhibit 7.4e. |
| INSTALLATION OF PROCESS DETECTION SYSTEMS | The addition of systems such as those described in Exhibit 7.4g. |
| INSTALLATION OF PERIMETER MONITORING SYSTEMS | The addition of systems such as those described in Exhibit 7.4g. |
| INSTALLATION OF MITIGATION SYSTEMS | The addition of systems such as those described in Exhibit 7.4f. |
| | |

| | |
|---|---|
| **OTHER** | Specify any other changes made to the process since the last PHA or hazard review that are not listed above. |
| **NONE REQUIRED OR RECOMMENDED** | Check “none” if the PHA or hazard review team did not require or recommend any changes to the process. |

7.5. Date of Most Recent Review of Operating Procedures. Enter the most recent date on which you reviewed or revised your operating procedures. You are required to update your operating procedures whenever a "major change" occurs and prior to startup of the changed process. Typical changes that require you to update your operating procedures include changes in process chemicals, technology, and equipment.

7.6. Training. Enter the following:

7.6.a. Date of most recent review/revision of training programs. The date that you most recently reviewed or revised your training program.

7.6.b. Type of training provided. The type of training provided, Select all that apply:

7.6.b.1. Classroom

7.6.b.2. On the job

7.6.b.3. Other(specify)

7.6.c. Type of competency testing used. Identify how employees were tested to determine and evaluate comprehension of the training materials. Select all that apply.

7.6.c.1. Written test

7.6.c.2. Oral test

7.6.c.3. Demonstration

7.6.c.4. Observation

7.6.c.5. Other (specify)

7.7. Maintenance. Enter the following:

7.7.a. The date that you most recently reviewed or revised the maintenance procedures.

7.7.b. The date of the most recent equipment inspection or test

7.7.c. The equipment that were tested or inspected.

7.8. Management of Change. Enter the following:

7.8.a. The date of the most recent change (if any) that triggered the management of change procedure.

7.8.b. The date that you most recently reviewed or revised the management of change procedures at your site.

7.9. Date of Most Recent Pre-Startup Review. Enter the date of the most recent pre-startup review (if any) for this process.

7.10. Compliance Audits. Enter the following:

7.10.a. Date of most recent compliance audit

7.10.b. Expected date of completion of any changes recommended by the compliance audit. This may be blank if there were no changes or all changes are complete.

7.11. Incident Investigation. Enter the following:

7.11.a. Date of most your most recent incident investigation. If you have not had an incident investigation, leave this field blank.

7.11.b. The expected date of completion of any changes recommended by the incident investigation. This may be blank if there were no changes or all changes are complete.

7.12. Date of Most Recent Review/Revision of Employee Participation Plans. Enter the date that you most recently reviewed or revised your employee participation plans.

7.13. Date of Most Recent Review/Revision of Hot Work Permit Procedures. Enter the date that you most recently reviewed or revised your hot work permit procedures.

7.14. Date of Most Recent Review/Revision of Contractor Safety Procedures. Enter the date that you most recently reviewed or revised your contractor safety procedures.

7.15. Date of Most Recent Evaluation of Contractor Safety Performance. Enter the date of your most recent evaluation of contractor safety procedures.

## SECTION 8: PREVENTION PROGRAM FOR PROGRAM 2 PROCESSES

8.1. NAICS Code for Process. Enter the five- or six-digit NAICS code for the process or part of the process. You must determine the NAICS codes for your processes based on your activities on-site. Provide the code of the process, or part of the process, not the code of your source as a whole. For example, if you are an agricultural retailer, but sell ammonia as a fertilizer and propane as a fuel, then your overall NAICS code is 42291 (farm supplies), but the propane sales

are NAICS code 454312. Depending on the degree to which NAICS subdivides an industry sector, your code may be either five or six digits. The NAICS code that you choose must be one of the ones you entered in the Registration Section for the covered process.

8.2. Chemical Name(s). For each prevention program, provide the names of all regulated substances held above the threshold in the covered units. If you have an NFPA-4 flammable mixture containing regulated flammables, you may list it as a "flammable mixture" and list all of the regulated substances contained in the mixture.

8.3. Safety Information. For this part of the RMP Enter the following:

8.3.a. The date that you most recently reviewed or revised the safety information.

8.3.b. Are you subject to any of the following Federal/state regulations? Do you use any of the following industry-specific design codes and standards to demonstrate compliance with the safety information requirement? Select all that apply:

8.3.b.1. NFPA 58 (or state law based on NFPA 58). - National Fire Protection Association propane handling codes. Note that propane laws are based on NFPA 58 except in Texas. You should select "NFPA 58" if your process is subject to these laws.

8.3.b.2. OSHA (29 CFR 1910.111) - OSHA's rule for operations handling anhydrous ammonia. You should select "29 CFR 1910.111" if your process is subject to this rule.

8.3.b.3. ASTM Standards - Select if you follow American Society of Testing Materials standards. They establish standards for materials, products, systems, test methods, specifications, classifications, definitions, and recommended practices.

8.3.b.4. ANSI Standards - Select if you follow American National Standards Institute standards. ANSI nationally coordinates voluntary standards. Further, the ANSI standards give status to standards in such areas as definitions, terminology, symbols, and abbreviations; materials, performance characteristics, procedure, and methods of rating; methods of testing and analysis; size, weight, and volume, safety, health, and building construction.

8.3.b.5. ASME Standards - Select if you follow American Society of Mechanical Engineers standards. ASME conducts research and develops boiler,pressure vessel, and power test codes. They also develop safety codes and standards for equipment.

8.3.b.6. None - If your facility does not apply any of the standards noted above to this Program 2 process, and is not subject to any of the rules or laws noted above, you should select "none."

8.3.b.7. Other (specify) - If you apply any other standards to your process safety equipment you should select "other" and specify the standards you apply. Some examples of other standards include the National Electrical Manufacturers Association (NEMA) standards and the American Petroleum Institute (API) standards.

8.3.b.8. Comments - In this section, please explain how Federal, State, or industry-specific design codes and standards are being used to demonstrate compliance with the safety information requirement.

8.4. Hazard Review. For this part of the RMP, enter the following:

8.4.a. The date of completion of the most recent hazard review or update (must be within the five years prior to submission of the RMP).

8.4.b. The expected date of completion of any changes resulting from the hazard review. If all changes are complete or there were no changes, leave blank.

8.4.c. Major hazards identified. All major hazards that were identified for the Program 2 process or part of the process at your facility as a result of the hazard review. Major hazards are described in Exhibit 2. Select all that apply.

8.4.d. Process controls in use. All of the process controls used on this Program 2 process or part of the process. Process controls are equipment and associated procedures used to prevent or limit releases. Process controls are described in Exhibit 3. Select all that apply.

8.4.e. Mitigation systems. All of the mitigation systems you have in place to control a release should one occur from this Program 2 process or part of the process. Mitigation systems are described in Exhibit 4. Select all that apply.

8.4.f. Monitoring/detection systems. All of the monitoring and detection systems installed to detect a release of a regulated substance from the Program 2 process or part of the process. Monitoring and detection systems are described in Exhibit 5. Select all that apply.

8.4.g. Changes since last PHA update. All of the changes made to the process or part of the process since the last hazard review. Hazard review changes are described in Exhibit 6. Select all that apply.

8.5. Date of Most Recent Review/Revision of Operating Procedures. Enter the most recent date on which you reviewed or revised your operating procedures. You are required to update your operating procedures whenever a"major change" occurs and prior to startup of the changed process. (See Chapter 7 of the General Guidance for a discussion of what constitutes a major change.) Typical changes that require you to update your operating procedures include changes in process chemicals, technology, and equipment.

8.6. Training. Enter the following:

8.6.a. Date of most recent review/revision of training programs. The date that you most recently reviewed or revised your training program.

8.6.b. Type of training provided. Select all that apply.

b.1. Classroom

b.2. On the job

b.3. Other(specify)

8.6.c. Type of competency testing used. Identify how employees were tested to determine and evaluate comprehension of the training materials. Select all that apply.

c.1. Written test

c.2. Oral test

c.3. Demonstration

c.4. Observation

c.5. Other (specify)

8.7. Maintenance. Enter the following:

8.7.a. The date that you most recently reviewed or revised the maintenance procedures.

8.7.b. The date of the most recent equipment inspection or test

8.7.c. The equipment that were tested or inspected.

8.8. Compliance Audits. Enter the following:

8.8.a. The date of your most recent compliance audit (must be within the three years prior to submission of the RMP).

8.8.b. The expected date of completion of any changes resulting from the compliance audit. This may be blank if there were no changes or all changes are complete.

8.9. Incident Investigation. Enter the following:

8.9.a. The date of your most recent incident investigation (if any). If you have not had an incident investigation, leave this field blank.

8.9.b. The expected date of completion of any changes recommended by the incident investigation. This may be blank if there were no changes or all changes are complete.

8.10. Date of Most Recent Change that Triggered Review/Revision. The last data element you need to provide for your Program 2 processes is the date of the most recent change that triggered

a review or a revision of safety information, the hazard review, operating or maintenance procedures, or training.

## SECTION 9: EMERGENCY RESPONSE PROGRAM

Before continuing, you should determine whether your employees will respond to releases of regulated substances at your facility. If you answer yes to this question, then you are subject to § 68.95 and must also fill out all data items in this section of the RMP. However, if your employees will not respond to releases of regulated substances at your facility, you need only respond to the first two and last two emergency response data elements.

9.1.a. Is your Facility Included in the Community Emergency Response (ER) Plan? Under EPCRA section 303, LEPCs must prepare an emergency response plan for their planning district. Answer "yes" to this question if you have worked with your LEPC to ensure that local planning and response officials are familiar with the hazards at your facility and understand how a response will be conducted.

9.1.b. Does your Facility Have a Written Emergency Response (ER) Plan? Answer "yes" to this question if you have a response plan (not just an emergency action plan as required by OSHA under 29 CFR 1910.38).

9.2. Does facility ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?

9.3. Does facility ER plan include procedures for informing public and local agencies responding to accidental release?

9.4. Does facility ER plan include information on emergency health care?

These are the three mandatory components for your emergency response plan required under § 68.95 (if you answered "yes" to the first question in this section). For an emergency response plan to achieve compliance under this requirement, you must be able to answer "yes" to each of these questions.

9.5. Date of Most Recent Review/Update of Your Emergency Response Plan

9.6. Date of Most Recent Emergency Response Training for Facility's Employees

For these data elements indicate the date on which you most recently reviewed or updated your plan and the date of the most recent emergency response training at your facility. Emergency response training includes drills involving your personnel with or without outside emergency response agencies and tabletop exercises of your emergency response plan. Single purpose drills (e.g., alarm system drills) may be listed, but exercises that test more aspects of the plan are preferable.

The risk management program rule does not specify a schedule for conducting reviews of your emergency response plan or employee response training. You should conduct training and update or review your plan as appropriate. However, EPA will expect these dates to be in the last five years. Further, you should note that other planning requirements (e.g., HAZWOPER) may establish a more formal schedule for conducting training (e.g., eight hours of annual refresher training.)

9.7.a-b. Local Agency with which the Facility ER Plan or Response Activities are Coordinated. If you are subject to § 68.95, indicate the name and phone number of the agency that reviewed your plan (e.g., fire department, LEPC, or emergency management agency). If you are not, indicate the agency that will respond to releases of regulated substances at your facility and with which you have coordinated response activities.

9.8. Are you Subject to Other Federal or State Emergency Plan Requirements? For this data element, simply indicate all of the emergency response regulations or statutes to which your facility is subject. The list includes the following:

a. OSHA 1910.38. This is OSHA's Emergency Action Plan. All RMP facilities are subject to either this rule or OSHA 1910.120.

b. OSHA 1910.120. This is OSHA's Hazardous Waste Operations and Emergency Response (HAZWOPER) Plan.

c. Clean Water Act Regulations (40 CFR 112). This is EPA's oil Spill Prevention Control and Countermeasures (SPCC) Plan as required by the Clean Water Act.

d. RCRA Regulations (40 CFR 264, 265, 279.52). These are EPA's permitting requirements for solid waste under the Resource Conservation and Recovery Act (RCRA).

e. OPA 90 Regulations (40 CFR 112; 33 CFR 154; 49 CFR 194; and 30 CFR 254). These are EPA, U.S. Coast Guard, Department of Transportation, and Department of the Interior facility response plan requirements as required by the Oil Pollution Act of 1990 (OPA 90).

f. State EPCRA Rules or Laws. These are the state emergency planning and community right-to-know (EPCRA) laws. Federal EPCRA does not require facility response plans, but some state laws may.

g. Other. Specify any other emergency response regulations or laws to which your facility is subject.

Maintained by the Chemical Emergency Preparedness and Prevention Office (CEPPO), Office of Solid Waste and Emergency Response (OSWER), U.S. Environmental Protection Agency (EPA)

URL:http://www.epa.gov/swercepp/pubs/instruct.html

Last Updated: May 12, 1998

## LIST OF RMP DATA ELEMENTS

**EXECUTIVE SUMMARY**

**1. REGISTRATION**

1.1 Source Identification

1.1.a. Facility Name:

1.1.b. Parent Company #1 Name:

1.1.c. Parent Company #2 Name:

1.2. RMP Facility Identifier:

1.3. EPA Identifier:

1.4. Dun and Bradstreet Numbers (DUNS)

1.4.a. Facility DUNS:

1.4.b. Parent Company #1 DUNS:

1.4.c. Parent Company #2 DUNS:

1.5 Facility Location

1.5.a. Street - Line 1:

1.5.b. Street - Line 2:

1.5.c. City:

1.5.d. State:

1.5.e. Zip Code:

Zip +4 Code:

1.5.f. County:

1.5.g. Facility Latitude (report in degrees, minutes, and seconds):

1.5.h. Facility Longitude (report in degrees, minutes, and seconds):

1.5.i. Lat/Long Method:

1.5.j. Lat/Long Description:

1.6 Owner/Operator

1.6.a. Name:

1.6.b. Phone:

Owner/Operator Mailing Address

1.6.c. Street - Line 1:

1.6.d. Street - Line 2:

1.6.e. City:

1.6.f. State:

1.6.g. Zip Code:

Zip +4 Code:

1.7. Name and title of person responsible for part 68 implementation

1.7.a. RMP contact name:

1.7.b. RMP contact title:

1.8. Emergency Contact

1.8.a. Name:

1.8.b. Title:

1.8.c. Phone:

1.8.d. 24-Hour Phone:

1.8.e. 24-Hour Phone Extension/PIN #:

1.9. Other Points of Contact (Optional)

1.9.a. Facility or Parent Company E-mail Address:

1.9.b. Facility Public Contact Phone Number:

1.9.c. Facility or Parent Company WWW Homepage Address:

1.10. LEPC (Optional):

1.11. Number of full-time employees (FTEs):

1.12. Covered by (select all that apply)

1.12.a. OSHA PSM:

1.12.b. EPCRA 302:

1.12.c. Part 70 Air Operating Permit ID:

1.13. OSHA Star or Merit Ranking:

1.14. Last Safety Inspection Date:

1.15. Last Safety Inspection Performed by (select one)

1.15.a. OSHA

1.15.b. State OSHA

1.15.c. EPA

1.15.d. State EPA

1.15.e. Fire department

1.15.f. Not applicable

1.15.g. Other (specify)

1.16. Will this RMP involve Predictive Filing?

1.17. For each covered process fill in the following chart. Use a separate sheet for each process.

| | | | |
|---|---|---|---|
| Process Number:<br><br>(optional to help you track) | | | |
| Process Description:<br><br>(optional to help you track) | | | |
| 1.17.a. Program Level: | | | |
| 1.17.b. NAICS Code(s): | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| 1.17.c. Chemical | 1.17.c.1. Name: | 1.17.c.2. CAS Number | 1.17.c.3. Quantity (lbs.): |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

If you need more space to list NAICS codes or chemicals, please use a separate sheet of paper or make a photo copy of this sheet.

**2. TOXICS: WORST CASE**

2.1. Chemical Name

2.1.a. Name

2.1.b. Percent weight of chemical in mixture

2.2. Physical state (select one)

2.2.a. Gas

2.2.b. Liquid

2.3. Results based on (select one)

2.3.a. EPA's Offsite Consequence Analysis Reference Tables

2.3.b. Tables in RMP Guidance for Ammonia Refrigeration

2.3.d. Tables in RMP Guidance for Drinking Water Systems

2.3.e. Tables in RMP Guidance for POTWs (Waste Water)

2.3.f. Tables in RMP Guidance for Warehouses

2.3.g. Tables in RMP Guidance for Chemical Distributors

2.3.h. EPA's RMP*Comp™

2.3.i. ALOHA

2.3.z. Other model (specify)

2.4. Scenario (select one)

2.4.a. Gas Release

2.4.b. Liquid Spill and Vaporization

2.5. Quantity released (lbs)

2.6. Release rate (lbs./minute)

2.7. Release duration (minutes)

2.8. Wind speed (meters/second)

2.9. Stability class

2.10. Topography (select one)

2.10.a. Urban

2.10.b. Rural

2.11. Distance to endpoint (miles)

2.12. Residential population within distance to endpoint

2.13. Public receptors within distance to endpoint (select all that apply):

2.13.a. Schools

2.13.b. Residences

2.13.c. Hospitals

2.13.d. Prisons /Correctional facilities

2.13.e. Recreation areas

2.13.f. Commercial/industrial areas

2.13.g. Other (specify)

2.14. Environmental receptors within distance to endpoint (select all that apply)

2.14.a. National or state parks, forests, or monuments

2.14.b. Officially designated wildlife sanctuaries, preserves, or refuges

2.14.c. Federal wilderness area

2.14.d. Other (specify)

2.15 Passive mitigation considered (select all that apply)

2.15.b. Enclosures

2.15.c. Berms

2.15.d. Drains

2.15.e. Sumps

2.15.f. Other (specify)

2.16 Graphics file name (Optional)

**3. TOXICS: ALTERNATIVE RELEASES**

3.1. Chemical Name

3.1.a. Name

3.1.b. Percent weight of chemical in mixture

3.2. Physical State (select one)

3.2.a. Gas

3.2.b. Liquid

3.2.c. Both gas and liquid

3.3. Results based on (select one)

3.3.a. EPA's Offsite Consequence Analysis Reference Tables

3.3.b. Tables in RMP Guidance for Ammonia Refrigeration

3.3.d. Tables in RMP Guidance for Drinking Water Systems

3.3.e. Tables in RMP Guidance for POTWs (Waste Water)

3.3.f. Tables in RMP Guidance for Warehouses

3.3.g. Tables in RMP Guidance for Chemical Distributors

3.3.h. EPA's RMP*Comp™

3.3.i. ALOHA

3.3.z. Other model (specify)

3.4. Scenario (select one)

3.4.a. Transfer hose failure

3.4.b. Pipe leak

3.4.c. Vessel leak

3.4.d. Overfilling

3.4.e. Rupture disk/relief valve failure

3.4.f. Excess flow device failure

3.4.g. Other (specify)

3.5. Quantity released (lbs)

3.6. Release rate (lbs/minute)

3.7. Release duration (minutes)

3.8. Wind speed (meters/second)

3.9. Stability class

3.10. Topography (select one)

3.10.a. Urban

3.10.b. Rural

3.11. Distance to endpoint (miles)

3.12. Residential population within distance to endpoint

3.13. Public receptors within distance to endpoint (select all that apply)

3.13.a. Schools

3.13.b. Residences

3.13.c. Hospitals

3.13.d. Prisons /Correctional facilities

3.13.e. Recreation areas

3.13.f. Commercial/industrial areas

3.13.g. Other (specify)

3.14. Environmental receptors within distance to endpoint (select all that apply)

3.14.a. National or state parks, forests, or monuments

3.14.b. Officially designated wildlife sanctuaries, preserves, or refuges

3.14.c. Federal wilderness area

3.14.d. Other (specify)

3.15. Passive mitigation considered (select all that apply)

3.15.a. Dikes

3.15.b. Enclosures

3.15.c. Berms

3.15.d. Drains

3.15.e. Sumps

3.15.f. Other (specify)

3.16. Active mitigation considered (select all that apply)

3.16.a. Sprinkler systems

3.16.b. Deluge systems

3.16.c. Water curtain

3.16.d. Neutralization

3.16.e. Excess flow valve

3.16.f. Flares

3.16.g. Scrubbers

3.16.h. Emergency shutdown

3.16.i. Other (specify)

3.17 Graphics file name (Optional)

**4. FLAMMABLES: WORST CASE**

4.1. Chemical Name

4.2. Results based on (select one)

4.2.a. EPA's Offsite Consequence Analysis Reference Tables

4.2.c. Tables in RMP Guidance for Propane Storage Facilities

4.2.e. Tables in RMP Guidance for POTWs (Waste Water)

4.2.f. Tables in RMP Guidance for Warehouses

4.2.g. Tables in RMP Guidance for Chemical Distributors

4.2.h. EPA's RMP*Comp™

4.2.z. Other model (specify)

4.3. Scenario: Vapor Cloud Explosion

4.4. Quantity released (lbs.)

4.5. Endpoint Used: 1 PSI

4.6. Distance to endpoint (miles)

4.7. Residential population within distance to endpoint

4.8. Public receptors within distance to endpoint (select all that apply)

4.8.a. Schools

4.8.b. Residences

4.8.c. Hospitals

4.8.d. Prisons /Correctional facilities

4.8.e. Recreation areas

4.8.f. Commercial/industrial areas

4.8.g. Other (specify)

4.9. Environmental receptors within distance to endpoint (select all that apply)

4.9.a. National or state parks, forests, or monuments

4.9.b. Officially designated wildlife sanctuaries, preserves, or refuges

4.9.c. Federal wilderness area

4.9.d. Other (specify)

4.10. Passive mitigation considered (select all that apply)

4.10.a. Dikes

4.10.b. Fire walls

4.10.c. Blast walls

4.10.d. Enclosures

4.10.e. Other (specify)

4.11. Graphics file name (Optional)

**5. FLAMMABLES: ALTERNATIVE RELEASES**

5.1. Chemical Name

5.2. Results based on (select one)

5.2.a. EPA's Offsite Consequence Analysis Reference Tables

5.2.c. Tables in RMP Guidance for Propane Storage Facilities

5.2.e. Tables in RMP Guidance for POTWs (Waste Water)

5.2.f. Tables in RMP Guidance for Warehouses

5.2.g. Tables in RMP Guidance for Chemical Distributors

5.2.h. EPA's RMP*Comp™

5.2.z. Other model (specify)

5.3. Scenario (select one)

5.3.a. Vapor cloud explosion

5.3.b. Fireball

5.3.c. BLEVE

5.3.d. Pool fire

5.3.e. Jet fire

5.3.f. Vapor cloud fire

5.3.g. Other (specify)

5.4. Quantity released (lbs.)

5.5. Endpoint used (select one)

5.5.a. 1 PSI

5.5.b. 5 kw/m2 for 40 seconds

5.5.c. Lower flammability limit (specify)

5.6. Distance to endpoint (miles)

5.7. Residential population within distance to endpoint

5.8. Public receptors within distance to endpoint (select all that apply)

5.8.a. Schools

5.8.b. Residences

5.8.c. Hospitals

5.8.d. Prisons /Correctional facilities

5.8.e. Recreation areas

5.8.f. Commercial/industrial areas

5.8.g. Other (specify)

5.9. Environmental receptors within distance to endpoint (select all that apply)

5.9.a. National or state parks, forests, or monuments

5.9.b. Officially designated wildlife sanctuaries, preserves, or refuges

5.9.c. Federal wilderness area

5.9.d. Other (specify)

5.10. Passive mitigation considered (select all that apply)

5.10.a. Dikes

5.10.b. Fire walls

5.10.c. Blast walls

5.10.d. Enclosures

5.10.e. Other (specify)

5.11. Active mitigation considered (select all that apply)

5.11.a. Sprinkler system

5.11.b. Deluge system

5.11.c. Water curtain

5.11.d. Excess flow valve

5.11.e. Other (specify)

5.12. Graphics file name (Optional)

**6. FIVE-YEAR ACCIDENT HISTORY**

6.1. Date

6.2. Time

6.3. NAICS code of process

6.4. Release duration (hours and minutes, format: HHH:MM)

| 6.5Chemical(s) released | 6.5.a. Chemical name: | 6.5.b. Percent weight of chemical in mixture (toxins only) | 6.5.c. Quantity released (lbs.): |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

If you need more space to list chemicals, please use a separate sheet of paper or make a photo copy of this sheet.

6.6. Release event (select at least one)

6.6.a. Gas release

6.6.b. Liquid spill/evaporation

6.6.c. Fire

6.6.d. Explosion

6.7. Release source (select at least one)

6.7.a. Storage vessel

6.7.b. Piping

6.7.c. Process vessel

6.7.d. Transfer hose

6.7.e. Valve

6.7.f. Pump

6.7.g. Joint

6.7.h. Other (specify)

6.8. Weather conditions at time of event

6.8.a.i. Wind speed (numerical):

6.8.a.ii. Wind speed unit:

6.8.a.iii. Wind direction:

6.8.b. Temperature (F):

6.8.c. Stability class:

6.8.d. Precipitation present:

6.8.e. Unknown weather conditions

6.9. On-site Impacts

6.9.a. Deaths (enter numbers):

6.9.a.i. Workers/contractors:

6.9.a.ii. Public responders:

6.9.a.iii. Public:

6.9.b. Injuries (enter numbers):

6.9.b.i. Workers/contractors:

6.9.b.ii. Public responders:

6.9.b.iii. Public:

6.9.c. Property damage ($):

6.10. Known offsite impacts (enter numbers):

6.10.a. Deaths:

6.10.b. Hospitalizations:

6.10.c. Other medical treatment:

6.10.d. Evacuated:

6.10.e. Sheltered-in-place:

6.10.f. Property damage ($):

6.10.g. Environmental damage (select all that apply)

6.10.g.1. Fish or animal kills:

6.10.g.2. Tree, lawn, shrub, or crop damage:

6.10.g.3. Water contamination:

6.10.g.4. Soil contamination:

6.10.g.5. Other (specify):

6.11. Initiating event (select one)

6.11.a. Equipment failure

6.11.b. Human error

6.11.c. Natural (weather conditions, earthquake)

6.11.d. Unknown

6.12. Contributing factors (select all that apply)

6.12.a. Equipment failure:

6.12.b. Human error:

6.12.c. Improper procedure:

6.12.d. Overpressurization:

6.12.e. Upset condition:

6.12.f. By-pass condition:

6.12.g. Maintenance activity/inactivity:

6.12.h. Process design failure:

6.12.i. Unsuitable equipment:

6.12.j. Unusual weather conditions:

6.12.k. Management error:

6.12.l. Other (specify):

6.13. Offsite responders notified:

6.14. Changes introduced as a result of the accident (select at least one)

6.14.a. Improved/upgraded equipment

6.14.b. Revised maintenance

6.14.c. Revised training

6.14.d. Revised operating procedures

6.14.e. New process controls

6.14.f. New mitigation systems

6.14.g. Revised emergency response plan

6.14.h. Changed process

6.14.i. Reduced inventory

6.14.j. None

6.14.k. Other (specify)

**7. PREVENTION PROGRAM - PROGRAM 3**

For each process or process unit:

7.1 NAICS code for process:

| 7.2 Chemical name(s): | | |
|---|---|---|
| | | |
| | | |
| | | |

| | | |
|---|---|---|
| | | |

If you need more space to list chemicals, please use a separate sheet of paper or make a photo copy of this sheet.

7.3. Date on which safety information was last reviewed/revised:

7.4. Process Hazards Analysis (PHA)

7.4.a. Date last PHA/update

7.4.b. Technique used (select one)

7.4.b.1. What If

7.4.b.2. Checklist

7.4.b.3. What If/Checklist (combined)

7.4.b.4. HAZOP

7.4.b.5. Failure Mode & Effects Analysis

7.4.b.6. Fault Tree Analysis

7.4.b.7. Other (Specify)

7.4.c. Expected date of completion of any changes resulting from PHA

7.4.d. Major hazards identified (select all that apply)

7.4.d.1. Toxic release

7.4.d.2. Fire

7.4.d.3. Explosion

7.4.d.4. Runaway reaction

7.4.d.5. Polymerization

7.4.d.6. Overpressurization

7.4.d.7. Corrosion

7.4.d.8. Overfilling

7.4.d.9. Contamination

7.4.d.10. Equipment failure

7.4.d.11. Loss of cooling, heating, electricity, instrument air

7.4.d.12. Earthquake

7.4.d.13. Floods (flood plain)

7.4.d.14. Tornado

7.4.d.15. Hurricanes

7.4.d.16. Other (specify)

7.4.e. Process controls in use (select all that apply)

7.4.e.1. Vents

7.4.e.2. Relief valves

7.4.e.3. Check valves

7.4.e.4. Scrubbers

7.4.e.5. Flares

7.4.e.6. Manual shutoffs

7.4.e.7. Automatic shutoffs

7.4.e.8. Interlocks

7.4.e.9. Alarms and procedures

7.4.e.10. Keyed bypass

7.4.e.11. Emergency air supply

7.4.e.12. Emergency power

7.4.e.13. Backup pump

7.4.e.14. Grounding equipment

7.4.e.15. Inhibitor addition

7.4.e.16. Rupture disks

7.4.e.17. Excess flow device

7.4.e.18. Quench system

7.4.e.19. Purge system

7.4.e.20. Other (specify)

7.4.f. Mitigation systems (select all that apply)

7.4.f.1. Sprinkler system

7.4.f.2. Dikes

7.4.f.3. Fire walls

7.4.f.4. Blast walls

7.4.f.5. Deluge system

7.4.f.6. Water curtain

7.4.f.7. Enclosure

7.4.f.8. Neutralization

7.4.f.9. Other (specify)

7.4.g. Monitoring/detection systems (select all that apply)

7.4.g.1. Process area detectors

7.4.g.2. Perimeter monitors

7.4.g.3. Other (specify)

7.4.h. Changes since last PHA update (select all that apply)

7.4.h.1. Reduction in chemical inventory

7.4.h.2. Increase in chemical inventory

7.4.h.3. Change in process parameters

7.4.h.4. Installation of process controls

7.4.h.5. Installation of process detection systems

7.4.h.6. Installation of perimeter monitoring systems

7.4.h.7. Installation of mitigation systems

7.4.h.8. None recommended

7.4.h.9. Other (specify)

7.5 Date of most recent review of operating procedures

7.6 Training

7.6.a. Date of most recent review/revision of training programs

7.6.b. Type of training provided (select all that apply)

7.6.b.1. Classroom

7.6.b.2. On the job

7.6.b.3. Other(specify)

7.6.c. Type of competency testing used (select all that apply)

7.6.c.1. Written test

7.6.c.2. Oral test

7.6.c.3. Demonstration

7.6.c.4. Observation

7.6.c.5. Other (specify)

7.7. Maintenance

7.7.a. Date of most recent review/revision of maintenance procedures

7.7.b. Date of most recent equipment inspection/test

7.7.c. What equipment inspected/tested

7.8. Management of Change

7.8.a. Date of most recent change that triggered management of change procedures

7.8.b. Date of most recent review/revision of management of change procedures

7.9. Date of most recent pre-startup review

7.10. Compliance audits:

7.10.a. Date of most recent compliance audit

7.10.b. Expected date of completion of any changes resulting from compliance audit

7.11. Incident investigation:

7.11.a. Date of most recent incident investigation

7.11.b. Expected date of completion of any changes resulting from investigation

7.12. Date of most recent review/revision of employee participation plans

7.13. Date of most recent review/revision of hot work permit procedures

7.14. Date of most recent review/revision of contractor safety procedures

7.15. Date of most recent evaluation of contractor safety performance

**8. PREVENTION PROGRAM - PROGRAM 2**

For each process or process unit:

8.1. NAICS Code for process:

| 8.2. Chemical name(s): | |
|---|---|
| | |
| | |
| | |
| | |
| | |

If you need more space to list chemicals, please use a separate sheet of paper or make a photo copy of this sheet.

8.3. Safety information

8.3.a. Date of most recent review/revision of safety information

8.3.b. Federal/state regulations or industry-specific design codes and standards used to demonstrate compliance with the safety information requirement (select all that apply)

8.3.b.1. NFPA 58 (or state law based on NFPA 58)

8.3.b.2. OSHA (29 CFR 1910.111)

8.3.b.3. ASTM Standards

8.3.b.4. ANSI Standards

8.3.b.5. ASME Standards

8.3.b.6. None

8.3.b.7. Other (specify)

8.3.b.8. Comments

8.4. Hazard review

8.4.a. Date of completion of most recent hazard review/update

8.4.b. Expected date of completion of any changes resulting from the hazard review

8.4.c. Major hazards identified (select all that apply)

8.4.c.1. Toxic release

8.4.c.2. Fire

8.4.c.3. Explosion

8.4.c.4. Runaway reaction

8.4.c.5. Polymerization

8.4.c.6. Overpressurization

8.4.c.7. Corrosion

8.4.c.8. Overfilling

8.4.c.9. Contamination

8.4.c.10. Equipment failure

8.4.c.11. Loss of cooling, heating, electricity, instrument air

8.4.c.12. Earthquake

8.4.c.13. Floods (flood plain)

8.4.c.14. Tornado

8.4.c.15. Hurricanes

8.4.c.16. Other (specify)

8.4.d. Process controls in use (select all that apply)

8.4.d.1. Vents

8.4.d.2. Relief valves

8.4.d.3. Check valves

8.4.d.4. Scrubbers

8.4.d.5. Flares

8.4.d.6. Manual shutoffs

8.4.d.7. Automatic shutoffs

8.4.d.8. Interlocks

8.4.d.9. Alarms and procedures

8.4.d.10. Keyed bypass

8.4.d.11. Emergency air supply

8.4.d.12. Emergency power

8.4.d.13. Backup pump

8.4.d.14. Grounding equipment

8.4.d.15. Inhibitor addition

8.4.d.16. Rupture disks

8.4.d.17. Excess flow device

8.4.d.18. Quench system

8.4.d.19. Purge system

8.4.d.20. Other (specify)

8.4.e. Mitigation systems (select all that apply)

8.4.e.1. Sprinkler system

8.4.e.2. Dikes

8.4.e.3. Fire walls

8.4.e.4. Blast walls

8.4.e.5. Deluge system

8.4.e.6. Water curtain

8.4.e.7. Enclosure

8.4.e.8. Neutralization

8.4.e.9. Other (specify)

8.4.f. Monitoring/detection systems (select all that apply)

8.4.f.1. Process area detectors

8.4.f.2. Perimeter monitors

8.4.f.3. Other (specify)

8.4.g. Changes since last PHA update (select all that apply)

8.4.g.1. Reduction in chemical inventory

8.4.g.2. Increase in chemical inventory

8.4.g.3. Change in process parameters

8.4.g.4. Installation of process controls

8.4.g.5. Installation of process detection systems

8.4.g.6. Installation of perimeter monitoring systems

8.4.g.7. Installation of mitigation systems

8.4.g.8. None required/recommended

8.4.g.9. Other (specify)

8.5. Date of most recent review/revision of operating procedures

8.6. Training

8.6.a. Date of most recent review/revision of training programs

8.6.b. Type of training provided (select all that apply)

8.6.b.1. Classroom

8.6.b.2. On the job

8.6.b.3. Other (specify)

8.6.c. Type of competency test used (select all that apply)

8.6.c.1. Written test

8.6.c.2. Oral test

8.6.c.3. Demonstration

8.6.c.4. Observation

8.6.c.5. Other (specify)

8.7. Maintenance

8.7.a. Date of most recent review/revision of maintenance procedures

8.7.b. Date of most recent equipment inspection/test

8.7.c. What equipment inspected/tested

8.8. Compliance audits

8.8.a. Date of most recent compliance audit

8.8.b. Expected date of completion of any changes resulting from the compliance audit

8.9. Incident investigation:

8.9.a. Date of most recent incident investigation

8.9.b. Expected date of completion of any changes resulting from the investigation

8.10. Date of most recent change that triggered review/revision of safety information, hazard review, operating or maintenance procedures or training

**9. EMERGENCY RESPONSE**

9.1. Emergency response (ER) plan

9.1.a. Is facility included in the written community emergency response plan?

9.1.b. Does facility have its own written emergency response plan?

9.2. Does facility ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?

9.3. Does facility ER plan include procedures for informing public and local agencies responding to accidental release?

9.4. Does facility ER plan include information on emergency health care?

9.5. Date of most recent review/update of facility ER plan

9.6. Date of most recent emergency response training for facility's employees

9.7. Local agency with which the facility ER plan or response activities are coordinated

9.7.a. Name of agency

9.7.b. Phone number

9.8. Subject to (select all that apply)

9.8.a. OSHA 1910.38

9.8.b. OSHA 1910.120

9.8.c. Clean Water Act/SPCC (40 CFR 112)

9.8.d. RCRA (40 CFR 264, 265, 279.52)

9.8.e. OPA-90 (40 CFR 112, 33 CFR 154, 49 CFR 194, 30 CFR 254)

9.8.f. State EPCRA rules/law

9.8.g. Other (specify)

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