

Chemical Emergency Preparedness and Prevention Office
(CEPPO)

Changes to CEPPO Technical Guidance Documents

Changes that have been made to original versions of CEPPO's Accident Prevention (RMP)

Technical Guidance Documents will be posted to this page along with the date that those changes were incorporated into the

document. Documents posted to the web after the dates identified below will include those changes unless otherwise noted.

I. General Guidance for Risk Management Programs

1. Page 3-5. Deleted Question and Answer box on property damage. (8/12/98)

II. Risk Management Program Guidance for Propane Storage Facilities

1. Page 35. The release rate equation in the original document, $QR = HA \times Pt \times 1/(Tt)E \times GF$, was incorrect. This equation was removed and the correct equation, $QR = HA \times 176 \times (Pg/DF)E$, was added. (11/9/98)

2. Page 7, 1st paragraph under heading "How Do I Determine the Amount of Propane Stored in a Process at My Facility," end of first sentence. Added "see Appendix A for additional guidance on determining whether your propane tanks are co-located." (2/24/99)

3. Pages A-1,2. Added Appendix A, "How Do I Determine if My Separate (Non-Interconnected) Propane Tanks are Co-Located?," and adjusted the table of contents to reflect the new appendix. (2/24/99)

4. Page 44, under bold heading "Initiating Event," in bullet labeled "Weather Conditions." Added "earthquakes" to the list of weather conditions. (2/5/99)

5. Page 82, third paragraph, third sentence. Deleted the words, "...or you may use the following audit checklist." (No audit checklist was in the original document). (2/5/99)

6. Page 4, 1st paragraph. Added text to clarify that the appendices referred to here are the those

in the General Guidance for Risk Management Programs. (2/24/99)

7. Page 15, 1st paragraph, 1st sentence. Replaced reference to nine Standard Industrial Classification codes with ten North American Industrial Classification System codes (2/24/99)

8. Page 95. Updated text to clarify that RMP*Submit software and forms are currently available. (2/24/99) </p>

9. Entire document revised to incorporate the requirements of the Chemical Safety Information, Site Security and Fuels Regulatory Relief Act. (1/28/00) </p>

III. Risk Management Program Guidance for Wastewater Treatment Plants

1. Pages 2-1, 4, 13, 16, 17: Modified text on these pages to specify that public facilities are subject to program 3 requirements (if they do not qualify for program 1) in non-OSHA delegated states that have enacted legislation or promulgated regulations adopting the federal OSHA PSM standard by reference. (3/26/99)

IV. Risk Management Program Guidance for Offsite Consequence Analysis

(Compared to May 1996 Guidance)

1. Introduction. A Table of Potentially Regulated Entities was added following the Table of Contents. (April 15, 1999)

2. Chapter 1. Textual reference to the number of analyses required by the rule was corrected to reflect the intent of rule (i.e., analysis is required for individual processes, not individual substances). (April 15, 1999)

3. Chapter 1. Text was reorganized and expanded to better introduce the user to the rest of the document (e.g., to provide steps for performing analyses). References to parts of the rule were added (e.g., definition of urban/rural landscape). (April 15, 1999)

4. Chapter 1. Guidance was added for using models such as the ALOHA model that have distance cutoffs of less than 25 miles. (April 15, 1999)

5. Chapter 2. Sections 2.2 and 2.3 were revised to clarify determination of quantity and selection of scenario for worst-case analysis. (April 15, 1999)

6. Chapter 3. A phrase was added to Section 3.1.2 concerning the use of an enclosed space scenario if the chemical is handled outside the building. (April 15, 1999)

7. Chapter 4, Examples 14 and 15, and Chapter 8, Examples 24 and 25. Endpoint calculations derived using the ALOHA and WHAZAN models were added for comparison. Section D.4.5 in Appendix D was added to describe how this modeling was carried out. (April 15, 1999)

8. Chapter 4. Chemical-specific modeling for worst case scenarios for ammonia, chlorine, and sulfur dioxide was added. Exhibit 3 was created to point the user to new reference tables created for these specific chemicals. Information on how to use these reference tables was added. (April 15, 1999)

9. Chapter 5. Text was edited in Section 5.2 on calculating total quantity of a mixture of flammables to clarify that non-regulated flammables should be included in the total quantity for the worst-case analysis. (April 15, 1999)

10. Chapter 5. Reference tables 9 - 12 were added with chemical specific information on worst-case scenario modeling of ammonia, chlorine and sulfur dioxide. (April 15, 1999)

11. Reference Tables. Additional release rates were added to Reference Tables 5 - 8 in Chapter 5 and Reference Tables 18 - 21 in Chapter 10, to include rates in the range of 50,000 to 200,000 pounds per minute. Reference Table 13 was edited to expand the "quantity in cloud" range in the top row to quantities of 500 to 2,000,000 pounds. In Example 30, in Chapter 10, quantities of propane were edited to reflect this change. (April 15, 1999)

12. Chapter 7. Example 21 on liquid release from an atmospheric tank was changed to allyl alcohol. Example 23 on evaporation of allyl alcohol from a pool formed by liquid released from a tank hole was added. (April 15, 1999)

13. Chapter 7. Bernoulli's equation for releases from long pipes was moved from Appendix D, Section D.7.2, to Section 7.2.1 on liquid release rates. In addition, a short clarification of releases from long pipes was added to Section 7.2.1. (April 15, 1999)

14. All text in the former Chapter 9 was moved into Chapter 6 (Determining Alternative Release Scenarios). Chapter numbering for former Chapters 10 through 13 was adjusted to reflect this change. (April 15, 1999)

15. Chapter 8. Chemical-specific modeling for alternative scenarios for ammonia, chlorine, and sulfur dioxide was added. Exhibit 5 was created to point the user to new reference tables created for these specific chemicals. Information on how to use these reference tables was added. Example 24 on the gas release of chlorine was edited to reflect these changes. (April 15, 1999)

16. Chapter 8. Example 25 was added on allyl alcohol evaporating from a pool. (April 15, 1999)

17. Chapter 10. Reference tables 22 - 25 were added with chemical-specific information on alternative-case scenario modeling of ammonia, chlorine and sulfur dioxide. (April 15, 1999)

18. Appendix B. In Exhibit B-3, a footnote was added directing the user to use dense gas tables for water solutions of elevated temperature. (April 15, 1999)

19. Appendix B. Exhibit B-4 was added to provide temperature correction factors for liquids evaporating from pools at temperatures between 25 and 50 C. Text was added in Appendix D, Section D.2.2, to describe the derivation of these correction factors. In Sections 3.2.5 and 7.2.3, for worst case and alternative scenario calculations, respectively, text was added to describe the calculation of release rates for toxic liquids at these temperatures. Example 9 was added in Section 3.2.5 to illustrate the use of these factors. (April 15, 1999)

20. In Appendix C, 1,3-pentadiene was moved from Table C-2 (data for flammable gases) to Table C-3 (data for flammable liquids). (April 15, 1999)

21. Appendix E. Worksheets for Offsite Consequence Analysis were added to assist the user. (April 15, 1999)

22. Distances of less than 1 mile reported in reference tables throughout the guidance were rounded to one significant figure. (April 15, 1999)

22. Page numbering for the entire document was changed to reflect a chapter-specific numbering scheme. The Table of Contents was adjusted to reflect changes in page layout, page numbers, reference tables, and exhibits. Example numbering was also adjusted to reflect edits and additions. References to web site addresses for EPA guidance documents and tools (e.g., RMP*Submit) were updated throughout the document. (April 15, 1999)

V. Risk Management Program Guidance for Warehouses

1. Page 1-5, last paragraph: Discussion of "Warehouses as a Single Process" clarified to emphasize that warehouses are not required to be considered as single processes if storage areas do not meet criteria for co-location.

2. Page 1-10, 2nd Q&A: Answer clarified to note that process separation distances may depend on the nature of other materials in the warehouse.

3. Page 1-12, 2nd Q&A: Answer clarified to note that flammable mixtures not meeting NFPA-4 criteria do not need to be counted toward the threshold when determining RMP applicability.

Maintained by the Chemical Emergency Preparedness and
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Response (OSWER), U.S. Environmental Protection Agency (EPA)

URL: <http://www.epa.gov/swercepp/pubs/errata2.html>
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