Colorado Department of Health

Review and Comment

The Plan for the Prevention of Contaminant Dispersion
Draft Version 1.0, September, 1990

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General Comments

1) There is no mention in this PPCD of monitoring programs as they relate to the prevention of windblown contamination at the Rocky Flats Plant (RFP). A discussion of prevention without an on-going continuous check of windblown constituents that are present is meaningless because no yard-stick is present to measure prevention effectiveness. Therefore, monitoring must be addressed. Site-specific conditions will determine the method of monitoring that is used, but a discussion of monitoring needs, goals, and criteria as well as a list of different possible monitoring methods needs to reside in this document, particularly as they relate to site-wide conditions and/or activities.

2) The description of this document within the IAG does not limit the evaluation of risk from windblown constituents to only off-site receptors. The exact wording of the second paragraph of Section V of the Statement of Work portion of the IAG is:

DOE shall also include as part of the Plan, a proposal to evaluate the potential for and risk of windblown inorganic, radioactive and organic constituents released from sites at the Rocky Flats Plant. . . (emphasis added)

This includes a risk evaluation of all on-site receptors including, but not limited to, workers on plant site as well as on any remediation site and environmental receptors. In addition, the risk that windblown contamination will create new clean-up problems in the future should be addressed.

3) With very few exceptions, the entirety of Part I was lifted directly from EPA 540/2-85/003, 1985, Handbook: Dust Control at Hazardous Waste Sites. However, by definition, that is only guidance. The PPCD, by it's definition, is a plan. Yet no definitive plan is promulgated. How will RFP and it's site remediation managers choose the best and most effective dust and contaminant control method? What will be plant protocol for determining the best choice under specific circumstances? The Division suggests that a "Method Effectiveness" section, similar to the one found in the referenced guidance, be added to each of the three sub-sections of Part I. Please make sure that this addresses

the unique circumstances found at RFP and is not just a regurgitation of the guidance document. In addition, use the "Plan Formulation" section from the guidance document to generate the "Plan" part of this document. This Plan must include RFP's recommendation of "best choices" of dust mitigation and monitoring in certain environmental and meteorological conditions. It must also address all other long range and site-wide policies that will be or are currently being implemented at RFP to prevent contaminant dispersion. The PPCD, with a "Plan" included, can then fulfill it's intended purpose of acting as a guide for future RI/FS workplan preparation as well as assuring both the public and the regulatory agencies that a comprehensive plan is indeed in place at RFP that guides dust mitigation.

4) There is no mention of the Colorado Air Quality Control Commission's Regulation No. 1, Section III.D. This regulation covers fugitive particulate emissions and should be added to the regulatory citations in the document.

5) The abatement methods listed are acceptable methods. However, there are some additional methods that should be considered:

-One additional abatement measure that should be considered for unpaved roads is a simple chip and seal. This could be used in place of full paving because it is rapidly applied and is economical. It is almost as good as full paving and better than watering or palliative at controlling emissions.

-Within the realm of wastepile stabilization, a stabilizer to be considered is a latex spray. This is a common item used in both aggregate and coal pile control.

-Hydro-mulching should be considered for areas to be left for long periods and will also work on storage piles.

-In addition to the wind screens mentioned in the document, simple snow fences may be used. This is often as effective and more economical than the commercial wind screens.

-Washing of trucks was listed as an abatement measure for carry-out, but there was no indication of the wash area make up. Any truck wash area needs to be a thick gravel bed that will prevent run-off and avoid the creation of an additional mud source. All entry ways onto paved surfaces should also be graveled.

-Loaded trucks should be covered when coming on or going off site to prevent dust emissions from the load.

Combinations of the abatement measures listed here and in the document may be required to achieve the needed control of fugitive particulate emissions. These combinations should be a part of any site-wide and site-specific plans that are developed.

6) A permit from the Air Pollution Control Division will probably be required for projects that fall within the scope of the PPCD. At the time the permit is reviewed, the control plan will be reviewed to assure that proper abatement takes place.

7) Please include a section discussing how this plan will enable RFP to comply with the Colorado Air Quality Regulations.

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Specific Comments - Inroductory Sections

Table Of Contents: The title for "Part II" should have the words "Released From Sites at the Rocky Flats Plant" added. These are the words used in the IAG and, once the second general comment above is addressed, would more accurately address the content of the section.

Table of Contents: Within Section I of Part II, there is no mention of how local climatology and meteorology affect the likelihood of windblown emissions at RFP sites. Please add a section that addresses this and summarizes climatological factors at RFP as they relate to the scope of the PPCD.

Table of Contents: Either Section II of Part II needs to be expanded to address on-site risks or a "Section III" needs to be added that would cover on-site risk parameters. As mentioned above, the IAG does not limit this document to a discussion of risk related to only off-site windblown contamination. While off-site risk is very important, on-site risk to human and environmental receptors is more acute because of the proximity to the sources.

Table of Contents: There is no discussion within Section II of Part II on windblown emissions from remediation activities. In the future, this will probably be the biggest source of windblown emissions from the plant and a discussion of the risks and mitigation plans is necessary within this document.

Executive Summary: In the first paragraph, reference is made to EPA and DOE guidance documents. Within this section, please list the specific guidance documents that were used to the greatest extent in the preparation of the PPCD.

Policy, Page iii: The text states that "prior to the beginning of any work effort at any site . . . an independent review of the intended action/workplan will be performed . . . in order to keep contaminated dust concentrations to levels As Low As Reasonably Achievable (ALARA)." Who performs these reviews and by what criteria will they set the ALARA levels?

Policy, Page iii: The second paragraph indicates that, once again, the plant boundary and other off-site locations are being used as points of compliance with the PPCD, the Clean Air Act, and EPA National Emission Standards. Please address the on-site protocol

for the avoidance of contaminate concentrations as they apply to these same regulations.

Policy, Page iii: The text mentions that for hazardous substances that do not have a promulgated standard, CDH and EPA will be consulted. When will this consultation take place?

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Specific Comments - Part I

Part Ia, Section 5.1: The first paragraph of this section mentions that the road and road shoulder must be treated. How will the road be treated and with what substance(s)?

Part Ia, Section 5.2.2: Describe a "dust suppressing agent." Give some examples of different dust suppressing agents other than water.

Part Ia, Section 5.2.2: The text mentions that samples will be taken of the road surface to determine the size gradation of the aggregate. How frequently (both in the chronological sense and the horizontal distance sense) will these samples be taken and how will the sample locations be determined and kept consistent?

Part Ia, Section 6.1: How will the responsibility of dust re-entrainment as it relates to vehicle movement be communicated to drivers of the various vehicles on plant site? Even more importantly, how will this responsibility be enforced? This is a serious problem as many vehicles, particularly pieces of large construction equipment, are only on plant site temporarily and are operated by sub- and sometimes sub-sub-contractors who, because of their in-out frequency make enforcement of vehicle operation standards difficult. These large vehicles usually operate in un-paved locales are large contributors to the windblown dust at RFP.

Perhaps this is a subject that could be added to the SOP's.

Part Ia, Section 7.2: Where will additional aggregate that is needed for the roads come from?

Part Ia, Section 7.3: What is the ALARA level for vehicle movement?

Part Ia, Section 7.3: Why is there no section included in the text addressing chemical dust suppressants? Is there a plant policy that precludes including them in this document as a dust control method?

Part Ia, Section 7.3.1: Is the 5 mph speed limit mentioned here being put forth as the official speed limit, or just an example? It is a very good idea for this document to put forth some guidelines on speed limits, both within and outside of remedial action sites.

This is another possible place for an SOP, and maybe Wackenhut can help enforce it.

Part Ia, Section 7.3.1: There needs to be a section included in the text that lists and describes all the equipment needed for the various dust control methods.

Part Ia, Section 7.3.1.1: Who will determine the quantity and frequency of road watering, particularly in areas outside of remedial action sites? The responsibility as well as the specific criteria could be included in an SOP.

Part Ia, Section 7.3.1.2: Grading frequency needs to be more specific or added to the SOP's.

Part Ia, Section 7.3.1.3: This document, as mentioned above, should propose some speed limit guidelines that can then be incorporated into the SOP's. These guidelines should consider cost/benefit factors for speed limits and should cover both paved and un-paved roads as well as different vehicle types. Guidelines should also discuss speed limits within and outside of remedial action sites.

Part Ia, Section 7.3.2: Several methods for dust control are mentioned here. Will the plant have all necessary equipment to implement these methods? It is noted that vacuum cleaning is absent from the text. Why is it not being considered?

Part Ia, Section 7.3.2.3: The text indicates that water flushing is often used in conjunction with vacuum sweeping. Since vacuum sweeping is not being considered as an option, then a revision of this section is necessary.

Part Ia, Section 7.3.2.3: Not all of the paved roads on plant site have curbs and gutters. Therefore, the method discussed in this section needs to be expanded to include paved roads without curbs and gutters.

General Comment 1, Part Ia: Outside of construction sites and remedial action sites, the largest contributor to windblown contaminants is unpaved roads. Please include in this document a description of the unpaved roads on plant site. How thick is the aggregate on the unpaved roads and is it contaminated? If it is not contaminated, most of the dust released by vehicular traffic will not be contaminated and speed limits can be higher. If the aggregate is contaminated, why not pave it or cover it with uncontaminated aggregate? To do this in an expeditious manner, a sampling of all unpaved roads on plant site can be undertaken and a resulting plan for paving or re-covering of contaminated portions can be implemented. This would systematically remove many sources of contaminated dust. Until something like this is implemented, a plant wide speed limit of 5 mph should be enforced on unpaved roads.

Part Ib, Section 5.1 and 5.2: Are bulldozers, scrapers, and front-end loaders the only pieces of heavy equipment that will be used within remediation sites? If not, some additional comment on the use of unforseen equipment in a manner that complies with the spirit and letter of this and other regulations is necessary.

Part Ib, Section 6.0 Refer to the comment on Part Ia, section 6.0 presented above and apply it to this section as well.

Part Ib, Section 7.2, 7.3, and 7.3.1: All of these sections need concomitant SOP's developed for their implementation.

Part Ib, Section 7.3.2: What is the source of the dimensions given in the text for wind screens?

Part Ib, Section 7.3.3: Will a spray curtain apparatus be purchased for each remediation site in operation?

Part Ib, Section 7.3.3: Please include a diagram of the spray curtain in the PPCD.

General Comment 1, Part Ib: It has been determined at an earlier time that total enclosure of sites as a means of mitigating dust emissions is not a viable method at RFP. Please include as a part of this document, a discussion of the advantages and disadvantages of total enclosure and why it was discarded as a dust control method.

General Comment 2, Part Ib: Will water applicators be used as standard operating procedure? Will they be used at the point of soil drop and/or other places? Unless water applicators will be addressed in a site-specific manner, then a more complete discussion of their design and use criteria is necessary here.

Part Ic, Section 5.1: More discussion is necessary to explain the particular threshold velocities which affect different soil types and aggregate sizes. A table with this data in addition to the effect of moisture would be helpful.

Part Ic, Section 5.2.1: Four methods are listed here that would reduce windspeed at a soil surface. No mention is made as to if, and when, these methods will be used and which is preferable to the others. This could be addressed in the Plan referred to in General Comment 1.

Part Ic, Section 7.0: What is the ALARA level?

General Comment 1, Part Ic: Would it be possible and feasible to enclose any future (or present) waste pile in a tent similar to the tents now used for the pondcrete? Please discuss waste pile enclosure as a dust control measure as it relates to wind erosion.

General Comment 2, Part Ic: Please provide diagrams of windscreens, waste pile covers, and liners or a discussion that

describes each of these and their installation and use in detail.

Specific Comments - Part II

Part IIa, Introduction: In the second paragraph, the text states that potential impacts of atmospheric releases of noxious or hazardous materials need to be evaluated using established procedures. What and where are these "established procedures?"

Part IIa, Introduction: The third paragraph needs to be re-worded. It is unclear whether there are really only two major sections or actually three based on the use of semi-colons in the text.

Part IIa, Section 1.1: Once the integrity of storage mechanisms have been evaluated, where will the evaluation reside and how will results of an unfavorable result impact future actions?

Part IIa, Section 1.1.1, 1.1.2, and 1.1.3: How will these various storage mechanisms be evaluated? Upon what criteria will they be judged? Will they be somehow ranked as to their risk and will that risk being quantified?

Part IIa, Section 1.3.5: Please provide a definition and description of a PM_{10}.

Part IIa, Section 1.4: Just because particles in the 30 to 100 um diameter range often settle within a few hundred feet of the source does not mean that they can be ignored in any health risk assessment. These particles may not make it off-site, but workers on-site are definitely at risk to inhalation of these particles.

Part IIa, Section 1.0, General Comment: After reading this entire section, it is still unclear how the likelihood of windblown emissions will, in fact, be evaluated. Please add a flow chart or summarize the step-by-step process that will be used to make this type of evaluation for a particular site or storage mechanism.

The entire plant, including the buffer zone, should be evaluated for windblown contaminant likelihood. A map of dust emission susceptibility could then be generated to help guide future land use, remediation alternatives, and construction. It should be added that all OU's that require construction or soil movement are not likely to generate dust; they are guaranteed to generate dust.

Part IIa, Section 1.0, General Comment: There is a need for a section in the text (section 1.6) that addresses the projected activity at various sources. This section could describe the virtual certainty of windblown releases associated with sources that will affected by future environmental restoration activities.

Part IIa, Section 2.1 and 2.2: Both of these sections need to be expanded to include discussions of what will be done with contaminant levels and toxicity effects once they have been

determined. Where will they reside and how and when will they be determined?

Part IIa, Section 2.3: Where and what is the "emission factor relationship" that is supposed to be described in Section 1.3?

Part IIa, Table 1.2: This table is very good and added much to the understanding of how the various factors will be used in the Modified Wind Equation.

Part IIa, Section 2.3.1: Please describe in more detail how this "Spatial Subdivision System" will be created and what factors are considered in it's creation. Also describe how it will be used.

Part IIa, Section 2.3.2: The concept described in the final paragraph of this section is a very good idea and could be expanded to include the generation of the map proposed in the Part IIa, Section 1.0, General Comment above.

Part IIa, Section 2.0, General Comment: Once all of the evaluations described in this section are completed, the input parameters for the Wind Equation have been determined, and a resultant likelihood of dust emission quantified, it should be a part of the standard process to recommend dust minimization alternatives for each site. While this may be the intent, it is not clear in the text. Please add any needed text to make this clear.

Part IIa, Section 3.3.1: Within EPA 450/3-74-036-a, there are tables that estimate particulate emissions from unpaved roads in lb/mile. Can RFP make similar estimates for the unpaved roads on plant site?

Part IIb, Section 1.0: In the second paragraph, the text states "Assumptions and judgements are required at many levels throughout the analysis and these will be considered by technically competent individuals, with guidance from regulatory agencies." Please explain what constitutes a "competent individual" and what form of "guidance" from the regulatory agencies is foreseen.

Part IIb, Section 1.0: Within the third paragraph of this section, the statement is made that "the impact of fugitive emissions is generally most critical on a short-term basis in the immediate vicinity of the source." Why is this true?

Part IIb, Section 1.0: In this, the only text concerning monitoring, it is mentioned that monitoring is resource intensive and not always feasible. Why is this true and could the problem be somewhat avoided by using a mobile monitoring network?

Part IIb, Section 1.0: Theoretical models are fine and have the advantages stated in the text. However, the Division is concerned with the limitations of any model. The division proposes that models be used only in combination with monitoring until the input

parameters for the model are more completely understood and assumptions can be kept to a minimum.

Part IIb, Section 2.1.5: How will the estimate indicated in this section be generated?