

**Responses to EPA Comments on September 1993  
Final Technical Memorandum #10  
Development of Remedial Action Objectives  
881 Hillside Area (Operable Unit 1)  
Rocky Flats Plant**

**General Comments**

**Comment 1**

In general the remedial action objectives stated in the document are appropriate however EPA has not yet had the opportunity to review the final version of the baseline risk assessment for OU 1. Regardless of this insufficient information is provided in TM 10 pertaining to the site specific values and assumptions which were used in calculating the risk based preliminary remediation goals (PRGs). Since PRGs differ considerably from those calculated by EPA using standard default exposure parameters DOE must explain how it chose the contaminants for which PRGs were developed and how it derived these PRGs in order that they can be evaluated for acceptability.

**Response**

Contaminants selected for PRG development were taken from the 881 Hillside Area November 1993 RFI/RI Report. Specifically, COCs identified in the PHE were used for PRG calculations (although in the revised document all contaminants originally identified in the RFI/RI are being used at the request of CDH). Section 2.4.2 of the technical memorandum has been revised to include a clear presentation of the risk based PRG calculations. The section also includes an example calculation which presents the parameters used in the equations for the future on site residential risk scenarios. Substantial text has been added to this section to clarify the assumptions and default parameters used for calculating PRGs. Where appropriate assumptions and parameters were taken directly from the original PHE to maintain consistency between the risk assessment and risk based PRG calculations. An appendix has also been added to the document which contains the spreadsheets used to calculate certain PRGs.

**Specific Comments**

**Comment 1**

Page 12 paragraph 3 EPA agrees that the doctrine of Sovereign Immunity might work to transform an otherwise applicable requirement into a potentially relevant and appropriate requirement. However this Technical Memorandum does not elaborate on whether or how DOE has applied this concept. Unless the doctrine of Sovereign Immunity is specifically applied the language relating to Sovereign Immunity must be deleted.

## **Response**

The doctrine of sovereign immunity is being applied to the selection of chemical specific ARARs at OU 1. Traditionally, sovereign immunity is a doctrine which precludes a litigant from asserting an otherwise meritorious cause of action against a sovereign unless the sovereign consents to suit. Any waiver of the National Government's sovereign immunity must be unequivocal. Waivers of immunity must be construed strictly in favor of the sovereign and not enlarged beyond what the language requires. The Clean Water Act waives federal sovereign immunity for requirements respecting control and abatement of water pollution in 33 U.S.C. Section 1323(a). However, the statute does not define whether "water" includes surface water and groundwater. Thus, while the focus of the statute is on surface water, the issue is whether the regulatory provisions of the statute may be extended to regulation of groundwater. Because the statute does not apply clearly and unambiguously to groundwater, DOE reserves its right to argue that the United States has not waived its sovereign immunity to permit State groundwater regulation of any kind at a federal facility. Since the State groundwater regulations are arguably not enforceable at a federal facility, the State groundwater regulations can not be ARARs at a federal facility.

State groundwater standards will be listed as TBCs and will be considered in determining clean up standards for the Record of Decision. In addition, language concerning the issue of sovereign immunity presented above will be added to the text of the document. This issue should also be discussed in the ARARs working group.

## **Comment 2**

Page 12, paragraph 4. With regard to DOE's assertion that Colorado's Classifications and Water Quality Standards for Groundwater 3-12-0 do not qualify as promulgated standards within the meaning of CERCLA, EPA is deferring judgement on this issue pending further discussion with the State.

## **Response**

No response required.

## **Comment 3**

Page 12, paragraph 5. In several instances, DOE has argued that a specific State or Federal requirement is not an ARAR because the requirement is not more stringent than some other Federal requirement. This argument is not correct. If the State or Federal requirement is applicable or relevant and appropriate, it is by definition an ARAR and must be considered and treated as an ARAR throughout the CERCLA process. At the Record of Decision stage, the ROD must identify key ARARs and specifically identify any ARARs being waived. Whether or not a given requirement is duplicative or more stringent than some other requirement is relevant in developing PRGs.

## Response

The instances cited above refer to direct quotes from Section 121(d) of the Superfund Amendments and Reauthorization Act (SARA) which state that with respect to any hazardous substance pollutant or contaminant that will remain on-site, if

(i) any standard requirement criteria or limitation under any Federal environmental law including but not limited to the Toxic Substances Control Act the Safe Drinking Water Act the Clean Air Act the Clean Water Act the Marine Protection Research and Sanctuaries Act, or the Solid Waste Disposal Act or

(ii) any promulgated standard requirement, criteria or limitation under a State environmental or facility siting law that is more stringent than any Federal standard requirement criteria, or limitation including each such State standard requirement criteria, or limitation contained in a program approved, authorized, or delegated by the Administrator under a statute cited in subparagraph (A) and that has been identified to the President by the State in a timely manner is legally applicable to the hazardous substance or pollutant or contaminant concerned or is relevant and appropriate

The NCP rules as revised March 8 1990 support the concept of State requirements having to be more stringent than Federal requirements as a prerequisite to ARAR status Section 300.5 of Title 40 also defines applicable as well as relevant and appropriate

In order to designate which State ARARs were more stringent than Federal ARARs, an analysis was conducted with the results of the analysis presented in the technical memorandum. The language concerning identification of Federal ARARs has been revised where appropriate to clarify this fact. Note that the intent of this policy is to avoid detailed analysis of regulations that are duplicative and that do not provide additional protection of human health or the contaminants.

## Comment 4

Page 13 paragraph 4 The RCRA groundwater protection requirements must be considered as ARARs. 40 CFR Section 294.94 provides several mechanisms to define groundwater protection requirements depending upon whether an MCL exists for a given constituent.

## Response

RCRA groundwater protection requirements may be considered as action specific ARARs. The paragraph referenced in the comment did not intend to imply that RCRA groundwater protection requirements are not ARARs. Rather the text intended to state that in terms of developing PRGs MCLs under the Safe Drinking Water Act and State groundwater quality standards are designated as potential chemical specific ARARs. As stated in the comment there are several mechanisms to define these groundwater protection requirements but each mechanism relates to groundwater associated with a RCRA unit in establishing a point of compliance. Therefore the RCRA groundwater protection requirements are best addressed as action specific ARARs.

Additionally chemical specific protective requirements for groundwater can be achieved through the drinking water standards or goals, i.e. the MCLs or MCLGs

#### **Comment 5**

Page 14 Table 2-3 The values listed in this table for selenium are incorrect and must be changed to 0.05 milligram per liter (mg/L) for both the MCL and the MCLG

#### **Response**

The values for selenium have been changed to 0.05 mg/L for the MCL and MCLG

#### **Comment 6**

Page 15 paragraph 2 It is stated here that runoff from OU 1 may impact the South Interceptor Ditch and eventually Woman Creek after several retention ponds. This statement incorrectly describes the actual route of surface water runoff from OU 1. The South Interceptor Ditch flows directly to only one retention pond, Pond C-2. It is EPA's understanding that from Pond C-2 any water released is diverted to Walnut Creek via surface pipeline and thus never reaches Woman Creek. This paragraph must correctly state the route that surface water follows beginning at the 881 Hillside in OU 1.

#### **Response**

The text has been revised to emphasize the fact that Woman Creek may have been impacted by activities at OU 1 and was therefore evaluated in the BRA as part of a potential risk pathway. Incorrect statements concerning the route that surface water follows beginning at the 881 Hillside have been deleted. Note that the text (along with the accompanying tables) is now presented as an appendix to the technical memorandum. Surface water ARARs do not affect the development of RAOs or PRGs for OU 1 and are therefore better addressed in an appendix.

#### **Comment 7**

Pages 16 through 18, Table 2-4 Several values in this table are incorrect or missing. For example, the federal water quality standard for water and fish ingestion for 1,1-dichloroethene is  $3.3 \times 10^{-5}$  mg/L (EPA 1993, IRIS Chemical Files), but the table reports this as a missing value. Similarly, the federal water quality standard for many of the polycyclic aromatic hydrocarbons (PAHs) is  $2.8 \times 10^{-6}$  mg/L (EPA 1993). The table also presents these as missing values.

Some of the federal standards cited for aquatic life are also incorrect. The values listed as chronic for carbon tetrachloride, toluene, and fluoranthene are acute standards (EPA 1993). The acute water quality standards for 1,1-dichloroethene and 1,1,1-trichloroethane are 11.6 and 18 mg/L, respectively. All of the values discussed above must be checked for accuracy and correctly referenced in the text or table.

## **Response**

The tables have been reviewed for accuracy and corrected where appropriate. However, the standards referenced above for PAHs are from water quality criteria promulgated on December 22, 1992 which are specific to 14 states. Colorado does not appear as one of the 14 states specified in the regulations. These regulations therefore do not apply and will not be added to the table. The corrected table has been moved to the back of the document, and has been designated as an appendix since it does not affect the development of PRGs for OU 1 (see response to comment above).

## **Comment 8**

Page 20 Table 2.5 This table shows two columns with the same heading: On Site Resident with Direct Groundwater Use, which is apparently a mistake since different values are found in the columns below these headings. This must be corrected.

## **Response**

The table contains a typographical error and has been revised.

## **Comment 9**

Page 21 Table 2.6 This table indicates that no values were available for surface soil contaminants in IHSS 119.1 at the time of report preparation. Since these values are a subset of the values used to generate sitewide surface soil 95% UCL concentrations that are shown in the table, their unavailability is perplexing. These values must be shown in the revised document. In addition, it must be stated whether the 95% UCL values shown in this table are calculated on the arithmetic mean or some other statistical parameter.

## **Response**

The table has been deleted as part of other revisions made to the document. However, a new table has been included to contrast existing concentrations, risk-based PRGs, potential ARARs, and PQLs. However, the table only presents groundwater data since this is the only medium being addressed by the OU 1 CMS/FS (for alternative development).