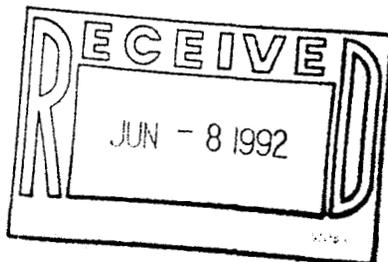


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FEDERAL EXPRESS

Ms. Linda Rock
EG&G Rocky Flats, Inc.
Rocky Flats Plant - Bldg. 111
Highway 93 - West Gate
Golden, Colorado 80402-0464

Re: Strategy Analysis Concerning Chemical-Specific
ARARs

Dear Ms. Rock:

Enclosed is a revised version of the strategy memorandum. I spoke to David Ward and his concerns have been addressed. I put a call into Dennis but never received a return call. Upon re-reading the section which discusses the "yield issue", I do not think we can emphasize the point to any greater degree without turning a summary into a full blown discussion. If that is EG&G's preference, let me know and we will make the appropriate changes ASAP.

I have also enclosed a computer disk with the memorandum on it. I did not have a 3 1/2 inch disk at hand so I put the document on a floppy.

Sincerely,

A handwritten signature in cursive script that reads "Sheila D. Jones".

Sheila D. Jones

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M E M O R A N D U M

TO: EG&G - Rocky Flats, Inc.

FROM: Cutler & Stanfield

DATE: June 4, 1992

RE: Strategic Analysis Concerning Chemical-Specific
Applicable or Relevant and Appropriate Requirements

The purpose of this memorandum is briefly to identify and critique potential strategies that may be adopted by the Department of Energy ("DOE") in its negotiations with the U.S. Environmental Protection Agency ("EPA") and the Colorado Department of Health ("CDH") concerning chemical-specific applicable or relevant and appropriate requirements ("ARARs") for remediation of DOE's facilities at the Rocky Flats Plant ("RFP"). This memorandum is divided into two parts. The first part discusses several issues pertinent to the ARARs identification

process. The second part, which adopts the format used by EG&G - Rocky Flats, Inc. in its "Preliminary Predecisional Working Draft" regarding chemical-specific ARARs, discusses briefly each potential ARAR that has been identified.

A. Preliminary Issues

1. Evaluating the Likelihood of Success of Particular Arguments

EG&G has asked Cutler & Stanfield to list the arguments in support of each ARAR issue starting in each instance with the argument which is most likely to be successful. We have done so below. Our overall approach when evaluating the viability of particular arguments has been to assign the highest value to the argument(s) that we believe are most likely to be persuasive if made before a court, and to assign a lesser value to arguments that are not likely to be persuasive before a court even though they may conform to policy positions taken by DOE previously either with respect to RFP or other DOE facilities. We have adopted this approach because if DOE does not obtain the desired result from negotiations with EPA and/or CDH, DOE's "appeal" in disputes with the State will be to the Federal district court, and in disputes solely with EPA the ultimate appeal will be to the White House and/or the Office of Management and Budget. We have also adopted this approach because EPA and/or Colorado are more likely to adopt DOE's position on a particular issue if they can be persuaded that DOE's position is consistent with the relevant statute and case law, or dictated by such case law or statute. Although we have assigned the highest value to those

arguments that we believe would be successful in a judicial proceeding, we have not ignored other persuasive arguments in support of DOE's position.

2. The Identification of Site-wide Chemical-specific ARARs Should Not be Allowed to Bind Future Decisions Concerning Remedial Actions at Individual Operable Units

DOE should seek to condition its agreement to identify site-wide chemical-specific ARARs such that remedial actions at individual operable units are not automatically required to attain each and every ARAR so identified. In its negotiations with EPA and CDH, DOE should take the position that it is willing to identify site-wide ARARs only for the limited purpose of assuring adequate levels of contaminant sampling and analysis during the remedial investigation phase for each of the operable units. ARARs to be attained at each individual operable unit during or at the conclusion of the remedial action must be identified separately, in response to the unique facts and cleanup objectives for each unit. Since many of the Records of Decision will not be written within the next five years the circumstances which typically drive ARAR decisions specifically and remedial action selection decisions in general may well change. For example, the permanent diversion of Walnut Creek and Woman Creek away from Great Western Reservoir and Standley Lake would have a major impact on the selection of remedies and appropriate cleanup levels relating to the cleanup of surface

water and ground water contamination at and in the vicinity of RFP.

This recommended approach is consistent with typical EPA procedures concerning ARAR identification. In contrast, the identification of site-wide ARARs is not typical of remedial actions under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 et seq. ("CERCLA"), when EPA has decided to address the contamination by dividing the site into operable units. EPA regulations and guidance clearly state that the ARARs to be identified at a particular site are dependent on the contaminants, remediation objectives and other relevant factors of concern at that particular site. See 40 C.F.R. § 300.4 (definitions of "applicable requirements" and "relevant and appropriate requirements"); U.S. Env'tl. Protection Agency, CERCLA Compliance with Other Laws Manual, Part I (Aug. 8, 1988) at 1-6 (hereinafter referred to as "CERCLA Compliance Manual, Part I"). Further, where a site has been subdivided into separate operable units (most often in response to variations in the type of remedial action required at different units), ARARs are identified separately for each operable unit; different operable units at the same site may be required to attain different ARARs. See, e.g., U.S. Env'tl. Protection Agency, Record of Decision, Rocky Mountain Arsenal (Operable Unit No. 16), CO (Feb. 26, 1990); U.S. Env'tl. Protection Agency Record of Decision, Rocky Mountain Arsenal (Operable Unit No. 18), CO (Feb. 26, 1990); U.S. Env'tl.

Protection Agency, Record of Decision, Rocky Mountain Arsenal (Operable Unit No. 19), CO (Feb. 26, 1990).

Undoubtedly, EPA and CDH at the end of the RFP remedial selection process want to have a consistent and uniform approach. EPA and CDH presumably also want to assure that the nature and scope of contamination in a particular medium or area of the site is not "missed" because of a failure to analyze for substances of concern or the failure to use low enough detection limits when conducting the analysis. Both of these concerns can be met by conducting a site-wide identification of ARARs which is preliminary and non-binding.

3. The Identification of ARARs that are Both Chemical Specific and Action-specific or Location-specific Should be Delayed

DOE should also seek agreement that only chemical-specific ARARs will be identified. ARARs that are both chemical-specific, and action-specific or location-specific need not be identified during this undertaking since no decisions have been or are being made about specific remedies at particular locations. Identification of action-specific ARARs would be an exercise of sheer speculation except with respect to those operable units where the RI/FS process is ongoing.

4. Remedial Actions Need Not Necessarily Attain ARARs Established at Levels Below Method Detection or Practical Quantification Levels

Under both Colorado and federal law, remedial actions are not necessarily required to attain standards or requirements that

are established at levels below method detection levels ("MDLs") or practical quantification limits ("PQLs"). DOE, therefore, should seek to be relieved of any obligation to achieve state and federal ARARs established at levels more stringent than MDLs or PQLs. If Colorado or EPA should oppose this argument, DOE should pursue CERCLA's technical impracticability waiver under 42 U.S.C. § 9621(d)(4)(C).^{1/}

With respect to certain contaminants, potential chemical-specific ARARs have been established by Colorado and the federal government at levels more stringent than MDLs or PQLs. For example, Colorado has established state-wide water quality standards for organic chemicals that have been identified at RFP (e.g., carbon tetrachloride, 1,2-dichloroethane) which are below PQLs. See Colorado Dep't of Health, Water Quality Control Comm'n, The Basic Standards and Methodologies for Surface Water, § 3.1.11(3) (Oct. 8, 1991) (referred to hereinafter as "Colorado Basic Surface Water Standards"). Similarly, federal ambient water quality criteria for certain pollutants also are below MDLs

^{1/} It is uncertain if by agreeing to the IAG, Colorado has agreed to abide by EPA waiver decisions for ARARs at operable units at which Colorado is the lead agency. In paragraph 107 of the Interagency Agreement among DOE, EPA and Colorado relating to the remediation at RFP, Colorado reserves its rights, if any, to impose as a substantive requirement under State law any standard it deems an ARAR. Colorado, however, has no authority to impose such a standard under its hazardous waste statute. See the discussion in Section A-7 of this memorandum. Section 121(f)(3)(B) of CERCLA allows a state to have an ARAR which has been waived included in the remedial action if it can demonstrate that the waiver was inconsistent with the evidence in the administrative record, or the state agrees to pay the additional cost required by imposing the standard on the facility.

or PQLs. See U.S. Env'tl. Protection Agency, Quality Criteria for Water 1986, Water Quality Criteria Summary (1986).

Section 3.1.14(9) of the state's basic surface water quality standards regulation and section 3.11.5(C)(4) of the state's basic ground water standards regulation each provide that where the water quality standards prescribed by regulation are set at levels below PQLs, then the PQLs "shall be used" as the pertinent "compliance threshold" or "performance standard" in assuring compliance with state standards. See Colorado Basic Surface Water Standards § 3.1.14(9); Colorado Dep't of Health, Water Quality Control Comm'n, The Basic Standards for Ground Water, § 3.11.5(C)(4) (Oct. 17, 1991), respectively. Under the terms of Colorado's regulations, it is the PQL that identifies the state's compliance requirement, not the more stringent water quality standard. Remedial actions at RFP that are subject to state water quality standards therefore should be required to comply only with PQLs, so long as said PQLs are more stringent than the federal ARARs for the pollutants in question.^{2/}

With respect to the identification of potential federal ARARs, EPA has addressed the impact of PQLs and MDLs only in a few instances. Generally, it appears that EPA's policy is that where federal standards (or state standards as well) are more

^{2/} In order to be a potential ARAR, CERCLA requires state standards to be more stringent than the federal standard for a particular pollutant. 42 U.S.C. § 9621(d)(2)(A)(ii). If the PQLs identified in Colorado's water quality standards regulations are not more stringent than the pertinent federal standards, the PQLs would not be ARARs.

stringent than the PQL or MDL for a particular pollutant, then EPA will invoke the "technical impracticability" waiver found at section 121(d)(4)(C) of CERCLA, 42 U.S.C. § 9621(d)(4)(C). See U.S. Env'tl. Protection Agency, Superfund Removal Procedures, Guidance on the Consideration of ARARs During Removal Actions, at 25 (1991) ("Compliance with ARARs is not necessary when it would be technically impractical or infeasible from an engineering perspective, such as when a State surface water discharge standard requires treatment of some wastewater contaminants to below non-detectable levels.").

Region VIII of EPA has acted in accordance with this policy with respect to at least two CERCLA cleanup sites. See U.S. Env'tl. Protection Agency, Region VIII, Record of Decision, East Helena Smelter Site (Process Ponds Operable Unit), MT (Nov. 22, 1989) at 10-20 to 10-22; U.S. Env'tl. Protection Agency, Record of Decision, Silver Bow Creek, MT (Sept. 28, 1990) at 3-10 to 3-11. At the East Helena Smelter Site, Region VIII waived the state standards for arsenic (0.0022 $\mu\text{g}/\text{l}$), cadmium (1.1 $\mu\text{g}/\text{l}$) and lead (3.2 $\mu\text{g}/\text{l}$), and required the site's remedial actions to attain levels of 20 $\mu\text{g}/\text{l}$ (arsenic), 10 $\mu\text{g}/\text{l}$ (cadmium) and 50 $\mu\text{g}/\text{l}$ (lead). Region VIII required the cleanup of the Silver Bow Creek site to attain surface water concentrations of 0.2 $\mu\text{g}/\text{l}$ for mercury and 20 $\mu\text{g}/\text{l}$ for arsenic, rather than compliance with the more stringent state standards.

With respect to certain federal standards, most notably MCLGs and FWQC that are equal to zero, EPA has addressed MDL and

PQL concerns. In its preamble to the most recent revisions to the National Contingency Plan, EPA stated that Maximum Contaminant Level Goals (MCLGs) and Federal Water Quality Criteria (FWQC) that are established at zero for particular pollutants are not ARARs. See U.S. Env'tl. Protection Agency, National Oil and Hazardous Substances Pollution Contingency Plan, Final Rule, 55 Fed. Reg. 8666 (1990). EPA's position concerning zero MCLGs is as follows:

It is EPA's opinion that MCLGs of zero, while reasonable as non-enforceable goals under the SDWA, are not appropriate as cleanup standards under the terms of CERCLA for several reasons. . . . Another reason that EPA believes that an MCLG of zero is not "appropriate" is that it is impossible to detect whether "true" zero has actually been attained. . . . EPA's experience and judgment is that determining that contaminant levels have been reduced to zero cannot be achieved in practice, and none of the many public comments on this issue provided evidence to the contrary. ARARs must be measurable and attainable since their purpose is to set a standard that an actual remedy will attain.

Id. at 8751-52 (emphasis added). Similarly, the preamble to the 1990 NCP also provided that "for carcinogens FWQC are recommended at zero, although values corresponding to risks of 10^{-5} , 10^{-6} , and 10^{-7} are also given. For the reasons given in the discussion of MCLs and MCLGs above, the zero value is not considered relevant and appropriate under CERCLA" Id. at 8755.

EPA thus has determined that all MCLGs and FWQC established at levels equal to zero cannot be ARARs, because such standards are neither attainable nor detectable. Presumably EPA would reach the same conclusion with respect to other federal standards

and state standards set at zero. EPA made its determination concerning MCLGs and FWQC with respect to cleanups on a nationwide basis, rather than allowing such standards to be addressed through site-specific waivers. EPA nonetheless suggested that concerns with other standards that are set at levels below MDLs or PQLs could be addressed by seeking site-specific waivers. See id. at 8752, n.19.

Discussions with staff at EPA Headquarter's Division of Water Quality Criteria appears to confirm that CERCLA's technical impracticability waiver is EPA's preferred approach for dealing with FWQC that are established at levels above zero, but below MDLs or PQLs. EPA staff indicated that although a numerical criterion would remain as an attainment "goal," compliance would be evaluated through use of MDLs or PQLs. EPA staff note, however, that the burden is on the discharger to demonstrate that (1) the numerical requirement is not possible to detect, and (2) that the best method has been used in trying to detect the particular pollutant. Conversation of Brita Wilkins, Cutler & Stanfield, with James Pendergast, U.S. Env'tl. Protection Agency, Water Quality Criteria Division, Permits Department (June 1, 1992).

With respect to another potential federal ARAR -- MCLs -- EPA factors the PQL for a particular contaminant into its identification of the appropriate concentration level to be established as the MCL. See U.S. Env'tl. Protection Agency, National Primary Drinking Water Regulations -- Synthetic Organic

Chemicals and Inorganic Chemicals, Notice of Availability with Request for Comments, 56 Fed. Reg. 60,949 (1991). In its discussion of the proposed MCLs for organic and inorganic chemicals, EPA stated as follows:

Consideration of the PQL is especially important for contaminants for which EPA proposes MCLGs at zero. Since the zero level can not be measured, EPA evaluates the performance of available analytical techniques to ascertain the level, greater than zero, which can be measured within acceptable limits of precision and accuracy. Therefore, for carcinogenic contaminants, where PQLs are by definition greater than the maximum contaminant level goals (MCLGs), the proposed MCLs are generally set at the PQL (where the identified best available technologies can reduce the contaminants at least down to this level, and taking the costs of the technologies into account). Analytical techniques may also be a limiting factor in setting MCLs for some noncarcinogenic contaminants if the PQLs are above the proposed MCLGs. In the July 1990 notice, the MCLs for antimony and thallium were proposed at a higher level than the MCLGs because the PQLs for these compounds were estimated to be higher than the non-zero MCLGs.

Id. at 60,952. Consequently, it appears that in establishing MCLs for various contaminants, EPA already has addressed concerns about detection levels so that MCLs generally are not established at levels below MDLs or PQLs.^{3/}

Finally, EPA has identified detection level concerns as one of the factors, among several, to be considered in identifying the preferred remedial action alternative at a CERCLA site. See 40 C.F.R. § 300.430(e)(2)(i)(A)(3).

^{3/} In arriving at the PQLs it uses in its calculation of MCLs, EPA apparently uses a multiple of the MDL for the contaminant in question; the PQLs generally are equal to either five or ten times the MDL. See id.

In summary, there exists strong support for DOE to assert in its negotiations with EPA and Colorado that PQLs or MDLs should be identified as the CERCLA compliance standard whenever state and federal requirements are set at levels below PQLs or MDLs. Where detection level concerns have not already been incorporated into a particular ARAR (such as through Colorado's regulations which require compliance only with PQLs for stringent water quality standards, through the use of PQLs in establishing MCLs, or through the elimination of zero MCLGs and FWQC as potential ARARs), DOE should pursue the "technical impracticability" waiver (42 U.S.C. § 9621(d)(4)(C)) in order to avoid being required to comply with an undetectable or unattainable requirement.

5. The Use Classifications Assigned to RFP Surface and Ground Waters Are a Major Factor in the Determination of the ARARs Pertinent to Such Waters

The fact that Colorado has assigned several use classifications to RFP surface and ground waters contributes in large part to the number of chemical-specific ARARs that must be attained at RFP. So long as the current use classifications established for RFP waters remain in effect, cleanup activities at RFP will be required to protect those use classifications.

In enacting section 121(d) of CERCLA, Congress specified that remedial actions should facilitate the restoration of both existing and potential uses of surface and ground waters. See 42 U.S.C. § 9621(d)(2)(B)(i) ("The President shall consider the designated or potential use of the surface or ground water"); see also U.S. Env'tl. Protection Agency, National Oil and Hazardous

Substances Pollution Contingency Plan, Final Rule, 55 Fed. Reg. 8666, 8733 (1990) ("Final NCP"). Use classifications established by Colorado for RFP surface and ground waters prescribe the "designated or potential use" of such waters, pursuant to the provisions of the Clean Water Act. See 33 U.S.C. § 1313(c).

Therefore, because the use classifications assigned to RFP surface and ground waters include the drinking water supply classification, remedial actions at RFP must ensure that RFP waters attain all state and federal standards and criteria concerning drinking water supplies which are ARARs. CERCLA mandates this result. See 42 U.S.C. § 9621(d)(2).

Furthermore, because RFP waters possess state-prescribed use classifications, EPA is afforded no discretion to determine that certain state or federal standards and criteria are not ARARs. For example, state water quality standards that are protective of drinking water supplies automatically are "applicable" to remedial actions at RFP concerning surface water contamination and ground water contamination. In contrast, were RFP waters not assigned the use classification of drinking water supply, under CERCLA section 121(d) EPA would have discretion to determine whether standards and criteria concerning drinking water supplies are "relevant" given the designated uses and whether the standards and criteria are "appropriate" even if they are "relevant."

Consequently, the use classifications currently assigned to RFP surface and ground waters are extremely significant. DOE

should consider whether the existing classifications are appropriate, and where they are not, DOE should consider seeking revisions to the classifications as soon as possible.

6. It is Unreasonable for EPA to Assert that RFP Waters Must Attain ARARs Protective of Drinking Water Supplies if Drinking Water Consumption Occurs at a Significant Distance Downstream of the RFP Discharge

EPA has asserted that the cleanup of surface waters at RFP should be required to attain ARARs protective of drinking water supplies, even if the entire flow of RFP surface waters is diverted past Great Western Reservoir and Standley Lake. EPA apparently bases its position on the argument that the proposed diversion would discharge flows into the Platte River, a river which is used as a drinking water source downstream in Nebraska. EPA concludes therefore that RFP surface waters would continue to be required to attain concentration levels that are protective of drinking water uses in order to protect downstream uses.

EPA's conclusion is probably ill-founded. Under EPA's own regulations, state water quality standards are required to ensure only that pollutant discharges impair neither the existing uses of the receiving water body nor impair the attainment of designated uses of downstream water bodies. See 40 C.F.R.

131.10. Once RFP surface waters are diverted away from Great Western Reservoir and Standley Lake, such waters no longer will be used as either an existing or contributing source of drinking water supply. As to downstream water bodies, RFP's contribution

to any contamination that might prevent the Platte River from attaining its designated uses presumably would be negligible.

By modelling the effects and fate of its proposed diverted discharge, DOE may be able to demonstrate that there is no scientific need for its discharge to attain concentration limits that are protective of drinking water supplies on-site or in the immediate vicinity of the site given the effects of dilution and dispersal. It is inconsistent with the Clean Water Act to require a discharger to treat its discharge more than is necessary to maintain an existing use or to prevent impairment of attainment of a potential use. Consequently, DOE should contest EPA's assertion that RFP surface waters automatically should be required to attain ARARs protective of drinking water supply even after such waters are diverted around Great Western Reservoir and Standley Lake.

7. The Effect of Colorado's Incorporation of the IAG into the Hazardous Waste Permit for the Rocky Flats Plant

Colorado has incorporated by reference the Interagency Agreement ("IAG") among EPA, DOE and Colorado into the hazardous waste permit that it issued to DOE for RFP.^{4/} The permit states that DOE shall follow the process described in the IAG regarding

^{4/} Colorado's action is consistent with paragraph 21 of the IAG, which states that Colorado will include in the hazardous waste permit Attachments 2 and 3 of the IAG. Attachment 2 is the Statement of Work and Attachment 3 are the Workplans. The Statement of Work sets forth the remedial/corrective action process to be followed at all operable units. In addition, paragraph 18 states that any interim remedial actions and any remedial actions selected for the facility will be incorporated into the corrective action requirements of the permit.

remedy selection.^{5/} Apparently Colorado has asserted that as a result of the incorporation of parts of the IAG into the permit it has authority under the Colorado Hazardous Waste Act ("CHWA"), §§ 25-15-101 et seq., to dictate the terms of the clean-up at RFP. To the extent Colorado has asserted or implied that it has authority under its hazardous waste law to dictate the terms of the clean-up at the facility, Colorado is simply wrong. In United States v. Colorado, et al., C.A.No. 89-C-1646, 1991 WL 193519 (D. Colo. 1991), the district court ruled, in litigation relating to the Rocky Mountain Arsenal, that when EPA has placed a site on the National Priorities List ("NPL") Colorado has no authority under its hazardous waste statute to impose requirements or conditions on the clean-up. Colorado is limited to the role for states defined in section 121(f) of CERCLA. Accordingly, there can be no question that absent a contract or agreement between EPA and Colorado whereby EPA agrees to permit Colorado to play a more significant role in the selection and implementation of the response actions at RFP, Colorado is limited, for the most part, to identifying state ARARs, commenting on the proposed remedy, and deciding if it will concur with the remedies selected by EPA.

The IAG is such an agreement. In the IAG, however, EPA has not agreed that Colorado has authority to use its authority under its hazardous waste statute to determine ARARs or the remedial

^{5/} See Part XI, Section D. 3 of the facility's hazardous waste permit.

actions for the facility.^{6/} EPA has agreed to allow Colorado to make a corrective action decision, the RCRA equivalent of a CERCLA ROD, for all of the operable units except operable units that contain no hazardous waste.^{7/} If Colorado and EPA select inconsistent clean-up plans, each party has reserved its rights to impose its remedial action on the facility, and to invoke the jurisdiction of the courts if necessary to resolve the dispute.^{8/} Given the decision in United States v. Colorado, supra, if EPA and Colorado select inconsistent remedies, Colorado presumably will fail if it attempts to impose its remedial decision on the facility.

The IAG, however, makes it clear that Colorado is to participate fully in the process leading to the selection of remedies for the various operable units. For example, EPA has agreed to make Colorado the "Lead Regulatory Agency" for some of the operable units and to make Colorado a joint Lead Regulatory Agency with EPA for other operable units. The Lead Regulatory Agency has the primary administrative and technical responsibility with respect to the actions taken in a given operable unit.^{9/} The Lead Regulatory Agency also has responsibility for the primary review and sole approval of all submittals made by DOE except for the workplans, the interim

^{6/} See paragraphs 107, 115, 156, 157, and 177 of the IAG.

^{7/} See paragraph 156 of the IAG.

^{8/} See paragraph 177 and Parts 27 and 29 generally.

^{9/} See paragraph 37 of the IAG.

remedial action/interim measures plans, the comprehensive risk assessment, and the proposed plans for remedial and corrective action.^{10/}

By virtue of the corrective action decision process, Colorado will be able to identify those actions that it believes are appropriate under the corrective action provisions of its hazardous waste regulations. The IAG requires DOE to conduct a RCRA Facility Investigation and a Corrective Measures Study for each operable unit.^{11/} Moreover, the IAG states that one purpose of the agreement is to "ensure compliance with RCRA and CHWA, including requirements covering permitting, corrective action, closure, and post-closure care."^{12/} By executing the IAG the United States has agreed to let Colorado exercise its authority under CHWA at RFP, subject to certain limitations.

8. Colorado Incorrectly Asserts That Its Ground Water Quality Standards Are ARARs Due to Its CHWA Corrective Action Authority

Colorado has asserted in its preliminary discussions with DOE and EG&G that the state groundwater quality standards are ARARs, due to Colorado's ability to enforce such standards pursuant to its corrective action authority under the Colorado

^{10/} See paragraph 144 of the IAG.

^{11/} See paragraph 15 (C).

^{12/} See paragraph 14(E) of the IAG.

Hazardous Waste Act ("CHWA").^{13/} After examining Colorado law, it is apparent that the state groundwater quality standards are not rendered "legally enforceable" by virtue of the state's corrective action programs, and therefore are not ARARs so long as the state has not implemented a permitting program under either the CHWA or the Colorado Water Quality Control Act that mandates compliance with such standards. However, the numerical limits identified in the state groundwater standards may nonetheless impose cleanup obligations at RFP to the extent that such limits are incorporated in the RCRA permit issued by Colorado for RFP.

Pursuant to its authority under the CHWA, Colorado has implemented regulations that include certain corrective action provisions. These provisions are found at sections 264.90-.101 of the Colorado Hazardous Facilities Standards Regulations. One group of these regulations establishes a groundwater protection program, under which owners and operators of facilities at which "hazardous constituents" are found must undertake specified corrective actions. Another section, section 264.101, implements the broader corrective action objectives identified in the Hazardous and Solid Waste Amendments Act of 1984 ("HSWA"). See 42 U.S.C. § 6924(u),(v).

Colorado has not incorporated its groundwater quality standards as enforceable requirements in the CHWA corrective

^{13/} Colorado's position presumably is in response to the observation that its water quality standards for groundwater are not legally enforceable and, thus, may not qualify as ARARs.

action program. Nowhere do the CHWA or the CHWA regulations prescribe that owners and operators must attain or comply with state groundwater quality standards. The state therefore cannot assert that such standards are ARARs. One may conclude, therefore, that Colorado groundwater quality standards (whether state-wide, basin-specific or site-specific) are not ARARs for remedial actions at RFP.

One should note, however, that pursuant to the CHWA corrective action program, the state possesses authority to prescribe pollutant concentration levels to be attained by the cleanup of solid waste management units ("SWMUs"), surface impoundments, waste piles, land treatment units and landfills. According to the CHWA regulations, such compliance levels may be incorporated in the permit issued by the state. At present, it does not appear that Colorado has incorporated its groundwater quality standards into the terms of DOE's CHWA permit. Thus, Colorado cannot assert that DOE currently is obligated to attain compliance with such standards.

Colorado has the discretion, however, in the course of determining the appropriate corrective action for a particular unit or SWMU to adopt the concentration levels of the groundwater standards as cleanup levels except with respect to certain materials. The state lacks authority to impose requirements on waste contaminated solely with source, byproduct or special nuclear materials. Congress has preempted the authority of states to impose requirements on such materials through the

enactment of the Atomic Energy Act.^{14/} Furthermore, Colorado's corrective action authority is limited to the regulation and control of "hazardous waste" and "hazardous constituents." See 6 C.C.R. 1007-3-264.100, .101. Radionuclides are not included in the definitions of such substances. See 6 C.C.R. 1007-3-261.3; Part 261, Appendix VIII, respectively. Only where radioactive waste is mixed with "hazardous waste" does the state possess authority to regulate radioactive waste which is not source, by-product or special nuclear material.

9. The Applicability of ARARs to State-Lead Operable Units

Colorado apparently has taken the position that ARARs must be attained at the State-lead operable units as well as the EPA-lead and joint-lead operable units. To our knowledge EPA has not delegated its authority under Sections 104(a) and 121 of CERCLA to select response actions, including remedial actions for any of the operable units, to Colorado. Instead EPA has agreed to forebear and permit Colorado to use its authorities under the CHWA to remediate the contamination in certain operable units.^{15/}

^{14/} Although in the IAG the United States has agreed to allow Colorado to act as the "Lead Regulatory Agency" for operable units that may contain source, special nuclear or by-product material (see paragraph 146 of the IAG), Colorado may only issue a corrective action decision if hazardous wastes are also found to be present in the operable unit or the law relating to the regulation of source, special nuclear and by-product materials is changed (see paragraph 153 of the IAG). Absent those conditions, only EPA will issue a remedial decision for the operable unit.

^{15/} EPA's forbearance is subject to the limitation that if EPA and Colorado disagree as to the nature and/or scope of the
(continued...)

The Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6992k ("RCRA"), and the state hazardous waste programs authorized by EPA under RCRA do not include an ARAR requirement. In fact there is no similar concept in RCRA or the authorized state programs. When remediating a facility under RCRA or the state counterpart, a facility is not required to attain standards, criteria or requirements promulgated under other federal or state environmental statutes unless those standards, criteria or requirements are applicable as a result of a statutory scheme other than RCRA. In its proposed corrective action regulation EPA states that the remedial actions must reduce risk to the 10^{-4} to 10^{-6} range, and that reference will be made to other standards and criteria such as Maximum Contaminant Levels under the Safe Drinking Water Act, to determine appropriate cleanup levels. 55 Fed. Reg. 30,826 (1990).

Identification of ARARs (other than applicable RCRA requirements) is not required by RCRA; nor is attaining a level of control or cleanup that is at least equivalent to the standard required by another statute mandated by RCRA or the state RCRA programs. Consequently, DOE has no legal obligation under RCRA or the CHWA to identify and "meet" ARARs with respect to the State-lead operable units. It appears, however, that the IAG

^{15/}(...continued)
remedy for a particular operable unit, EPA has reserved its rights to impose its remedial decision on the facility and to challenge the state's corrective action decision. See paragraphs 156-158 of the IAG.

requires DOE to identify and meet ARARs at the State-lead operable units. In discussing the process for selecting remedial actions for the operable units, the IAG makes no distinction between the operable units.^{16/} For example, Section IX of the Statement of Work appended to the IAG states that DOE shall identify ARARs in the Feasibility Studies and the Corrective Measures Studies. Accordingly, although neither RCRA or the CHWA require DOE to attain ARARs in all of the operable units at RFP, DOE has a contractual obligation to identify and attain ARARs.

^{16/} See paragraph 107 of the IAG.

B. Air Standards

1. Radionuclide NESHAP

EPA/CDH Position: Applicable

Preliminary EG&G Position: Not an ARAR

Optimal DOE Position: Not an ARAR

The language of the NESHAP regulation suggests that both passive and active emissions, whether from discrete or diffuse sources, are covered by the requirement. The NESHAP defines "facility" as "buildings" and "structures" as well as "operations." Therefore, emissions of radionuclides from RFP buildings and structures, even if there are no current "operations" at RFP, could be subject to the NESHAP. Note, however, that emissions of radionuclides from soils at RFP that are not containerized would not appear to be subject to the NESHAP if no "operations" are taking place with respect to such soils.

Likely Result: Applicable

2. Other NESHAPs

EPA/CDH Position: Applicable

Preliminary EG&G Position: Not ARARs

Optimal DOE Position: Not ARARs

The non-radionuclide NESHAPs are action-specific ARARs that are potentially applicable or appropriate when remediation gets underway at RFP. Since they are not solely chemical-specific ARARs they should not be included in the current undertaking which is focused on identifying chemical-specific ARARs. (See discussion above in section A.3).

Likely Result: Not solely chemical-specific ARARs

3. RCRA Air Emission Standards for TSDFs

EPA/CDH Position: Unknown

Preliminary EG&G Position: Not ARARs

Optimal DOE Position: Not ARARs

None of the RCRA air emission standards for treatment, storage or disposal facilities ("TSDFs") are applicable or appropriate until remediation gets underway, thus they are action-specific ARARs that should not be identified as site-wide chemical-specific ARARs.

Likely Result: Not solely chemical-specific ARARs

C. Federal Surface Water Standards

1. MCLs Currently in Effect, or Published as Final Rules But Not Yet in Effect -- Segments 4 and 5 Surface Waters^{17/}

EPA/CDH Position: Applicable if in effect, Relevant and Appropriate if published as a final rule but not yet in effect

Preliminary EG&G Position: Relevant and Appropriate

Optimal DOE Position: Not Applicable or Relevant and Appropriate

MCLs currently in effect (and those MCLs published as final rules but not yet in effect) are not applicable requirements because Segment 4 and Segment 5 surface waters are not used to provide delivery of drinking water through a public system at RFP with 15 or more service connections or which serves 25 or more year-round residents. RFP's drinking water system relies on raw water from a different source.

However, because both Segment 4 and Segment 5 possess drinking water supply use classifications, these MCLs likely will be relevant and appropriate requirements for remedial actions at RFP.

Only if one of the following factors is present, will a MCL for a particular contaminant not be relevant and appropriate:

- (i) If state use classifications for RFP surface waters are modified to eliminate the drinking water supply classification;
- (ii) If the entire flow of surface water from RFP is diverted around Standley Lake and Great Western Reservoir and the drinking water from RFP no longer contributes to a drinking water supply (man-made water conveyances like ditches cannot be assigned use classifications under the CWQCA);

^{17/} Segments 4 and 5 are assumed throughout this memorandum to be subject to the same ARARs. Although Segment 5 surface waters have been assigned a "goal qualifier," state regulations provide that such a qualifier merely indicates that the particular use classification is not yet capable of being attained in the water body, but is intended eventually to be attained. Consequently, with respect to both segments, the state has determined that each segment may currently or potentially be used for providing drinking water supply.

- (iii) If a state surface water quality standard for the same contaminant is more stringent; or
- (iv) If a non-zero MCLG exists for the same contaminant.

Likely Result: Relevant and Appropriate

2. Proposed MCLs

EPA/CDH Position: Unknown

Preliminary EG&G Position: Unknown

Optimal DOE Position: Not ARARs

Until proposed MCLs take effect or are published as final rules, they are neither applicable nor appropriate, but may be TBCs.

Likely Result: Not ARARs, but may be TBCs

3. Non-zero MCLGs Currently in Effect, or Published as Final Rules But Not Yet in Effect -- Segments 4 and 5 Surface Waters

EPA/CDH Position: Relevant and Appropriate

Preliminary EG&G Position: Relevant and Appropriate

Optimal DOE Position: Not ARARs

As with respect to MCLs currently in effect, non-zero MCLGs likewise usually will be relevant and appropriate requirements for remedial actions at RFP. This conclusion again is triggered by the use classification of drinking water supply that has been assigned to Segments 4 and 5 surface waters.

Only if one of the following factors is present, will a non-zero MCLG for a particular contaminant not be relevant and appropriate:

- (i) If state use classifications for RFP surface waters are modified to eliminate the drinking water supply classification;
- (ii) If the entire flow of surface water from RFP is diverted around Standley Lake and Great Western Reservoir and no longer contributes to a drinking water supply (man-made water conveyances like ditches cannot be assigned use classifications under the CWQCA); or
- (iii) If a state surface water quality standard for the same contaminant is more stringent.

Likely Result: Relevant and Appropriate

4. Proposed Non-zero MCLGs

EPA/CDH Position: Unknown

Preliminary EG&G Position: Unknown

Optimal DOE Position: Not ARARs

Until proposed non-zero MCLGs take effect or are published as final rules, they will not be ARARs but may be TBCs.

Likely Result: Not ARARs, but may be TBCs

5. Zero MCLGs

EPA/CDH Position: Unknown

Preliminary EG&G Position: Not ARARs

Optimal DOE Position: Not ARARs

The NCP declares that MCLGs equal to zero establish unattainable goals and thus are not ARARs, although they may be TBCs.

Likely Result: Not ARARs, but may be TBCs

6. Federal Ambient Water Quality Criteria for Human Health and Aquatic Life

EPA/CDH Position: Relevant and Appropriate

Preliminary EG&G Position: Relevant and Appropriate

Optimal DOE Position: Relevant and Appropriate

Federal ambient water quality criteria for human health likely will be relevant and appropriate requirements for RFP surface waters because such waters have been assigned use classifications for drinking water supply and class 2 recreation (which includes fishing). Furthermore, federal ambient water quality criteria for aquatic life also likely will be relevant and appropriate requirements because RFP surface waters possess a use classification for aquatic life. Where both aquatic life and human health criteria exist for a particular contaminant, the more stringent criterion will be relevant and appropriate.

Only under the following circumstances would federal ambient water quality criteria not be relevant and appropriate:

(i) if state use classifications for RFP surface waters are modified to eliminate drinking water supply, class 2 recreation and class 2 aquatic life use classifications;

(ii) if a MCL or non-zero MCLG exists for a particular pollutant and the MCL or non-zero MCLG is more stringent than the federal water quality criterion, the MCL or non-zero MCLG would be relevant and appropriate;

or

(iii) if state surface water quality standards are more stringent for particular contaminants, state water quality standards would be applicable.

Likely Result: Relevant and Appropriate

D. Federal Ground Water Standards

1. MCLs Currently in Effect, or Published as Final Rules But Not Yet in Effect

EPA/CDH Position: Relevant and Appropriate

Preliminary EG&G Position: TBCs

Optimal DOE Position: TBCs

MCLs likely will be relevant and appropriate requirements for ground water underlying RFP because the ground water has been classified by Colorado as being suitable for drinking water supply. Although three of the four aquifers underlying RFP appear unlikely to be viable drinking water supplies, according to the State Engineer's Office the Laramie-Fox Hills Aquifer is a viable drinking water supply. Unless DOE can demonstrate to Colorado that the Laramie-Fox Hills Aquifer either is protected from ground water contamination by impermeable clays or other subsurface characteristics, or is too remote from existing ground water contamination to be of concern, the MCLs are relevant and appropriate absent a change in the use classification.

Only under the following circumstances would MCLs currently in effect (or published as final rules but not yet in effect) not be relevant and appropriate requirements:

- (i) If DOE is successful in demonstrating that ground water in all four aquifers underlying RFP is available in quantities inadequate to constitute a viable drinking water supply;
- (ii) If DOE is successful in demonstrating that ground water in the Quaternary Aquifer, the Rocky Flats Alluvium and the Arapahoe Aquifer is available in quantities inadequate to constitute a viable drinking water supply, and that the Laramie-Fox Hills Aquifer either is separated from ground water contamination by impermeable layers or is too remote from existing ground water contamination to require remediation of the other aquifers to drinking water standards; or
- (iii) If state use classifications for ground water underlying RFP are modified to eliminate drinking water supply, agricultural use and surface water protection classifications;
- (iv) If state ground water quality standards are more stringent for particular contaminants; or
- (v) If non-zero MCLGs exist for particular contaminants.

Likely Result: Relevant and Appropriate

2. Proposed MCLs

EPA/CDH Position: Unknown

Preliminary EG&G Position: Unknown

Optimal DOE Position: Not ARARs

Until proposed MCLs take effect, they are neither applicable nor appropriate and thus are not ARARs, but may be TBCs.

Likely Result: Not ARARs, but may be TBCs

3. Non-zero MCLGs Currently in Effect, or Published as Final Rules But Not Yet in Effect -- Segments 4 and 5 Surface Waters

EPA/CDH Position: Relevant and Appropriate

Preliminary EG&G Position: TBC

Optimal DOE Position: Not ARARs

As with respect to MCLs currently in effect, non-zero MCLGs likewise usually will be relevant and appropriate requirements for remedial actions at RFP. This conclusion again is triggered by the use classification of drinking water supply that has been assigned to aquifers underlying RFP.

Only if one of the following factors is present, will a non-zero MCLG for a particular contaminant not be relevant and appropriate:

- (i) If DOE is successful in demonstrating that ground water in all four aquifers underlying RFP is available in quantities inadequate to constitute a viable drinking water supply;
- (ii) If DOE is successful in demonstrating that ground water in the Quaternary Aquifer, the Rocky Flats Alluvium and the Arapahoe Aquifer is available in quantities inadequate to constitute a viable drinking water supply, and that the Laramie-Fox Hills Aquifer either is separated from ground water contamination by impermeable layers or is too remote from existing ground water contamination to require remediation;
- (iii) If state use classifications for ground water underlying RFP are modified to eliminate drinking water

supply, agricultural use and surface water protection classifications;
(iv) If state ground water quality standards are more stringent for particular contaminants; or
(v) If a state surface water quality standard for the same contaminant is more stringent.

Likely Result: Relevant and Appropriate

4. Proposed Non-zero MCLGs

EPA/CDH Position: Unknown

Preliminary EG&G Position: Unknown

Optimal DOE Position: Not ARARS

Until proposed non-zero MCLGs take effect or are published as final rules, they will not be ARARS but may be TBCs.

Likely Result: Not ARARS, but May Be TBCs

5. Zero MCLGs

EPA/CDH Position: Unknown

Preliminary EG&G Position: Not ARARS

Optimal DOE Position: Not ARARS

The NCP declares that MCLGs equal to zero establish unattainable goals and thus are not ARARS, although they may be TBCs.

Likely Result: Not ARARS, but may be TBCs

6. RCRA Part 264 Subpart F Concentration Limits for Ground water

EPA/CDH Position: Applicable

Preliminary EG&G Position: Relevant and Appropriate

Optimal DOE Position: Not an ARAR

The Subpart F requirements are not applicable to RFP because Colorado is an authorized state; the Colorado regulations are applicable to RFP. The federal requirements also are not relevant and appropriate.

Likely result: Not an ARAR

7. Federal Ambient Water Quality Criteria for Human Health

EPA/CDH Position: Relevant and Appropriate

Preliminary EG&G Position: Relevant and Appropriate,
If Adjusted to Reflect Water Consumption Only

Optimal DOE Position: Relevant and Appropriate, If
Adjusted to Reflect Water Consumption Only

Federal ambient water quality criteria for human health are designed to be protective of either the consumption of both water and fish, or the consumption of fish alone. Because fish consumption is not a path of exposure to ground water, the federal water quality criteria must be adjusted to reflect consumption of water alone. Only in this circumstance could the federal criteria be considered to be both relevant and appropriate.

Only if one of the following factors is present, will the federal water quality criterion for a particular contaminant not be relevant and appropriate:

- (i) If the federal criterion is not adjusted to be pertinent to water ingestion alone;
- (ii) If state use classifications for ground water underlying RFP are modified to eliminate drinking water supply and surface water protection classifications;
- (iii) If a MCL or non-zero MCLG exists for a particular pollutant, in which case the MCL or non-zero MCLG would be relevant and appropriate; or
- (iv) If a state ground water quality standard which is applicable to RFP is more stringent.

Likely Result: Relevant and Appropriate, If Adjusted
to Reflect Water Consumption Only

E. State Surface Water Quality Standards

1. State-wide Surface Water Standards

EPA/CDH Position: Applicable

Preliminary EG&G Position: Applicable

Optimal DOE Position: Relevant and Appropriate

The state-wide surface water standards for non-radionuclides likely will be applicable requirements for remedial actions at RFP because such standards are applicable to all state waters. The radionuclide standards are preempted by the Atomic Energy Act (AEA).

Non-radionuclide standards would not be applicable to RFP surface waters, however, under the following circumstances:

(i) If the state standard for a particular contaminant is not more stringent than the federal ARAR, in which case the state standard is not an ARAR.

(ii) The state Basic Standards and Methodologies for Surface Water, at Section 3.1.6(1)(e), provide that uses must be attainable within 20 years in order to be designated for a particular water body. Given the concentration levels observed in the surface waters on site and the IAG timetable, the potential uses are not likely to be attained within 20 years of the use classification. Therefore, the use classifications and the concentration limits based on those uses are not valid. An invalid state standard does not qualify as a ARAR.

The "uses are not attainable" argument is not likely to be persuasive unless DOE can demonstrate that uses are unattainable in the requisite time period.

Likely Result: Applicable except with respect to source, by-product and special nuclear material

2. Basin-specific Surface Water Standards

EPA/CDH Position: Applicable

Preliminary EG&G Position: Applicable

Optimal DOE Position: Relevant and Appropriate

The basin-specific surface water standards for non-radionuclides likely will be applicable requirements for remedial actions at RFP because such standards are applicable to the basin in which Segments 4 and 5 are located. The radionuclide standards are preempted by the Atomic Energy Act.

The non-radionuclide standards would not be applicable to RFP surface waters, however, under the following circumstances:

- (i) If the state standard for a particular contaminant is not more stringent than the federal ARAR, in which case the state standard would not be an ARAR.
- (ii) If the use can not be attained within 20 years of the classification of the water body in question.

Likely Result: Applicable except with respect to source, by-product and special nuclear material

3. Site-specific Surface Water Standards for Inorganics

EPA/CDH Position: Applicable

Preliminary EG&G Position: TBCs

Optimal DOE Position: TBCs

Site-specific surface water standards for inorganics likely will be applicable requirements for RFP surface waters, because CERCLA's "general applicability" test is satisfied where a state has implemented the same water quality standards for waters possessing similar quality and the same uses. Colorado appears to have implemented identical inorganic standards to Colorado surface waters other than Segments 4 and 5.

Site-specific surface water standards for inorganics would not be applicable requirements for RFP surface waters only under the following circumstances (presented in declining order of likelihood of success given the current facts and data):

- (i) If DOE is successful in arguing that such standards are not of general applicability because the state discriminatorily is applying the standards to RFP;
- (ii) If DOE is successful in arguing that such standards are not of general applicability because they are "site-specific," in which case the standards likely would not be ARARs, but could be TBCs; or
- (iii) If the state standard for a particular contaminant is not more stringent than the federal

ARAR, in which case the state standard would not be an ARAR.

If the flows from Walnut and Woman Creeks are diverted permanently from Standley Lake and Great Western Reservoir DOE may be able to obtain a waiver under Section 121(d)(4)(D) of CERCLA for those numerical standards based on the drinking water supply classification.

Likely Result: Applicable

4. Site-specific Surface Water Standards for Additional Organics

EPA/CDH Position: Applicable

Preliminary EG&G Position: TBCs

Optimal DOE Position: TBCs

Site-specific surface water standards for additional organics would not be applicable requirements for RFP surface waters only under the following circumstances (presented in declining order of persuasiveness):

- (i) With respect to atrazine and simazine because these standards do not meet the "general applicability" test since only at RFP has Colorado implemented surface water standards for those two substances;
- (ii) If DOE is successful in arguing that the state's site-specific standards for additional organics are not of general applicability because the state discriminatorily is applying the standards to RFP; or
- (iii) If the state standard for a particular contaminant is not more stringent than the federal ARAR, in which case the state standard would not be an ARAR.

In order to be successful in challenging the state's site-specific standards for additional organics, DOE must provide evidence that Colorado discriminatorily is applying such standards to RFP. DOE would be required to demonstrate that state surface waters with similar quality and the same uses as those possessed by Segments 4 and 5 are being assigned state standards more lenient than those implemented for RFP surface waters. If successful, DOE thereby would demonstrate that the state standards are not of general applicability and, therefore, are not ARARs.

Alternatively, DOE could seek a waiver pursuant to section 121(d)(4)(E) of CERCLA, by asserting that the state is inconsistently applying its organic standards to waters with identical uses and similar quality. Or, if the creeks are permanently diverted DOE could seek a waiver under Section 121(d)(4)(D) of CERCLA, by asserting that the diversion (which should be incorporated into the relevant Records of Decision) will achieve the same result with respect to maintaining the quality of the water in Standley Lake and Great Western Reservoir.

The outcome of either seeking a waiver under Section 121(d)(4)(E) or contending that Colorado's standards are not of general applicability is difficult to predict. DOE will face a significant evidentiary burden in either case. However, if DOE elects to utilize the "general applicability" approach after DOE presents sufficient proof to call into question whether Colorado is acting in a discriminatory manner, Colorado will have an obligation to demonstrate that it is not. If DOE pursues a waiver Colorado has no such burden or obligation.

Likely Result: Uncertain

5. Site-specific Surface Standards for Radionuclides

EPA/CDH Position: Applicable

Preliminary EG&G Position: TBC

Optimal DOE Position: TBC

Site-specific surface water standards for radionuclides would not be applicable requirements for RFP surface waters under the following circumstances (presented in declining order of persuasiveness):

- (i) With respect to all radionuclides falling within the Atomic Energy Act's definition of source, byproduct or special nuclear material;
- (ii) If DOE is successful in arguing that the state's site-specific standards for radionuclides are not of general applicability because the state discriminatorily is applying the standards to RFP, in which case such standards are not ARARs; or
- (iii) If the state standard for a particular radionuclide is not more stringent than a federal ARAR, in which case the state standard would not be an ARAR.

The strongest argument in opposition to the Colorado's assertion of site-specific radionuclide standards is that such standards are preempted by the AEA to the extent the standards

address source, by-product or special nuclear material. This argument is strong enough that DOE should consider pursuing a judicial challenge if EPA and CDH reject it. Note this argument does not apply to all of the radionuclide standards.

As a fall-back argument with respect to source, by-product and special nuclear materials, DOE may assert that Colorado's site-specific radionuclide standards are not "of general applicability." In order to be successful in this challenge, DOE must provide evidence that Colorado discriminatorily is applying the site-specific radionuclide standards to RFP. This again appears to be a relatively easy argument to win, insofar as Colorado apparently has not implemented site-specific radionuclide standards at other sites with radionuclide contamination. This argument may also be made with respect to radionuclides which are not within the scope of the AEA.

Alternatively, DOE could seek a waiver pursuant to section 121(d)(4)(E) of CERCLA, by asserting that the state is inconsistently applying its organic standards to waters with identical uses and similar quality.

Likely Result: Not ARARs, but May Be TBCs

F. State Ground Water Quality Standards

1. 6 CCR 1007-3, Part 264 Subpart F Ground Water Protection Requirements

EPA/CDH Position: Applicable

Preliminary EG&G Position: Relevant and Appropriate

Optimal DOE Position: Relevant and Appropriate

The Subpart F ground water protection requirements are applicable only to landfills, surface impoundments, waste piles and land treatment units that received hazardous waste after July 26, 1982, and to solid waste management units (SWMUs).^{18/} Moreover, the requirements only apply to releases to the uppermost aquifer. Additionally, there are several exemptions set forth in 6 CCR 1007-3, § 264.90(b). For example, certain "engineered structures" are excluded.

RFP has units of the type within the scope of Subpart F. Moreover, some, if not most of those RCRA-regulated units, received hazardous waste after July 26, 1982. Accordingly, Subpart F is applicable to the remediation of some of the operable units if contamination in the uppermost aquifer is being addressed. For those surface impoundments, landfills, waste piles, and land treatment units at RFP which have not received hazardous waste since July 26, 1982, Subpart F will be relevant if any of the chemicals listed in Appendix VIII have been found in the units or released from the units. However, given the exemptions set forth in Subpart F an evaluation must be done for each unit to determine if the standard is appropriate given the exemptions. Subpart F is also relevant, and barring an exemption, appropriate if a unit received waste with Appendix VIII constituents and releases to an aquifer below the uppermost aquifer have occurred or are occurring.

Likely Result: Applicable to some units, relevant and appropriate to some units, and not an ARAR for some units

2. State-wide and Basin-specific Standards for Ground Water

^{18/} Solid waste management unit is any unit used for the treatment, storage or disposal of solid waste as defined at 6 C.C.R. 1007-3 § 261.2.

EPA/CDH Position: Applicable

Preliminary EG&G Position: TBCs

Optimal DOE Position: TBCs

State-wide and basin-specific standards for ground water would be neither applicable nor relevant and appropriate requirements for ground water underlying RFP under the following circumstances (presented in declining order of persuasiveness):

- (i) With respect to standards for radionuclides which are source, by-product or special nuclear material, the standards are preempted by the Atomic Energy Act;
- (ii) Until the state's ground water permitting regulations take effect -- until those regulations are effective, the state's ground water standards are not legally enforceable and thus cannot be ARARs;
- (iii) If a federal ground water criterion for a particular substance is more stringent than the state standard.^{19/}
- (iv) The U.S. has not waived its sovereign immunity in the CWA or CERCLA to state ground water standards; or
- (v) With respect to standards that are protective of drinking water supply, because ground water underlying RFP is available in insufficient quantities to constitute a drinking water supply.

Due to the nature of the arguments concerning the state standards, they are either applicable or, at best, TBCs. For example, if DOE argues successfully that the AEA preempts certain radionuclide standards, those standards are inapplicable, and inappropriate. Similarly if DOE argues successfully that sovereign immunity has not been waived in the CWA or CERCLA with respect to state ground water standards, all of the state standards are inapplicable and inappropriate.

Likely Result

Short term: Not ARARs until the permitting program is implemented

Long Term: Not ARARs with respect to preempted radionuclides and any substance for which there is a more stringent federal water quality criterion;

Applicable for other substances

^{19/} There are no federal water quality criteria for groundwater currently. EPA, however, may promulgate such standards before the remediation of RFP is complete.

3. Site-specific Standards for Ground Water

EPA/CDH Position: Applicable

Preliminary EG&G Position: TBCs

Optimal DOE Position: TBCs

Site-specific standards for ground water would be applicable requirements for ground water underlying RFP except under the following circumstances (presented in declining order of persuasiveness):

- (i) With respect to standards for radionuclides, which are preempted by the Atomic Energy Act;
- (ii) Until the state's ground water permitting regulations take effect -- until those regulations are effective, the state's ground water standards are not legally enforceable and thus cannot be ARARs;
- (iii) If there is a federal water quality criterion for a particular substance that is more stringent than the state standard;
- (iv) If sovereign immunity has not been waived in the CWA and CERCLA for federal facilities with respect to state ground water standards;
- (v) If DOE & EG&G successfully demonstrate that Colorado discriminatorily is applying its site-specific standards, and thus demonstrate that such standards are not "of general applicability"; or
- (vi) With respect to standards that are protective of drinking water supply, because ground water underlying RFP is available in insufficient quantities to constitute a drinking water supply.

Likely Result

Short term: Not ARARs until the permitting program is implemented

Long Term: Not ARARs with respect preempted radionuclides and substance for which there is a more stringent federal water quality criterion;

Applicable to other chemicals

4. SDWA-State Program

EPA/CDH Position: Unknown

Preliminary EG&G Position: Unknown

Optimal DOE Position: Relevant and Appropriate

Should Colorado implement an enforcement mechanism for the state program under the Safe Drinking Water Act ("SDWA") concerning wellhead protection or underground injection, the requirements established under such programs likely would be applicable to remedial actions at RFP because the SDWA sovereign immunity waiver is sufficiently broad to subject federal facilities to state SDWA standards concerning underground injection and wellhead protection. Primary and secondary drinking standards adopted by Colorado are not applicable because although RFP operates a public drinking water system on-site, RFP surface and ground waters are used to furnish the raw water treated by the RFP drinking water system. The standards would, however, be relevant and appropriate to remediation of all waters with a drinking water use classification.

**Likely Result: Applicable - State well-head protection program and underground injection program.
Relevant and Appropriate - drinking water standards**

G. Federal Radionuclide Standards

1. NRC Standards

EPA/CDH Position: Unknown

Preliminary EG&G Position: Unknown

Optimal DOE Position: TBCs

Radionuclide standards established by the Nuclear Regulatory Commission may be applicable requirements, to the extent that DOE nuclear production facilities are not exempt from NRC licensing and regulatory requirements. If the facilities at RFP are exempt from NRC requirements, however, then the NRC radionuclide standards are not ARARs.

Likely Result: Uncertain