

SITE-WIDE ARAR/TBC POLICY DETERMINATIONS

JUNE 11, 1992

The following is a summary of options for applicable or relevant and appropriate requirements and to be considered (ARAR/TBC) determinations for federal and state standards.

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

DOE should seek agreement that if chemical-specific ARARs are to be identified site-wide, they should not be automatically applied to individual operable units (OUs). The identification of potential site-wide ARARs should only be used for the limited purpose of assuring adequate levels of contaminant sampling and analysis during the remedial investigation phase for each of the OUs.

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.

AIR STANDARDS

1) Radionuclide NESHAP

EPA/CDH Position: Applicable

EG&G 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**

EG&G Position: **Not ARAR**

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**

EG&G Position: **Not ARAR**

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**

FEDERAL SURFACE WATER STANDARDS

4) SDWA MCLs CURRENTLY IN EFFECT, OR PUBLISHED AS FINAL RULES BUT NOT YET IN EFFECT FOR SEGMENT 4' SURFACE WATER

EPA/CDH Position: Applicable

EPA maintains that MCLs are Applicable because they are *enforceable standards*. EPA believes that RFP waters are a potential future source of drinking water and/or RFP waters currently flow to existing water supplies, even if those waters are in Nebraska.

EPA stressed the importance of identifying standards as applicable rather than relevant and appropriate. It was not clear why the difference was so important. Possibly this is because EPA may believe it may be easier to receive a waiver for relevant and appropriate requirements over applicable requirements. EPA also stated that relevant and appropriate requirements do not have to be either enforceable or of general applicability. This position appears to be contrary to the NCP.

EG&G Position A: Relevant and Appropriate

MCLs define the maximum permissible level of contaminants in water delivered to the free flowing outlet of the ultimate user of a public water system, per 40 CFR 141.2. As such, MCLs are clearly not applicable to RFP surface waters. However, since RFP Segment 4 surface waters have been classified by the CWQCC as a source of drinking water, MCLs have been determined to be relevant and appropriate and have accordingly been applied as ARAR.

EG&G Position B: Relevant and Appropriate

Federal SDWA MCLs for Segment 4 are still applied as relevant and appropriate, remaining designated as ARAR, since MCLs are enforceable as *tap water standards*, and not surface water standards. An ARAR is an ARAR is an ARAR - whether any standard is deemed to be applicable or relevant and appropriate - it will be enforceable regardless of its ARAR classification.

EG&G Position C: Not ARAR

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);
- (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 (Based on State Classifications)

5) PROPOSED MCLs

EPA/CDH Position: Unknown

EG&G Position: Not ARAR

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

6) SDWA MCLs CURRENTLY IN EFFECT, OR PUBLISHED AS FINAL RULES BUT NOT YET IN EFFECT FOR SEGMENT 5 SURFACE WATER

EPA/CDH Position: Relevant and Appropriate

EPA and CDH state that the goal qualifier is only applied to the use classification, not the underlying standards. Therefore, their position is that SDWA MCLs (and MCLGs and state standards) are to be applied as relevant and appropriate (ARAR) for Segment 5 surface waters. In addition, EPA believes that RFP waters are a potential future source of drinking water and/or RFP waters currently flow to existing water supplies, even if those waters are in Nebraska.)

EG&G Position A: TBC

MCLs define the maximum permissible level of contaminants in water delivered to the free flowing outlet of the ultimate user of a public water system, per 40 CFR 141.2. As such, MCLs are clearly not applicable to RFP surface waters. Also, since the Segment 5 classification as *Drinking Water Supply* has been applied as a goal by the CWQCC, MCLs are accordingly applied as TBC.

EG&G Position B: TBC

Federal SDWA MCLs for Segment 5 are to remain as TBCs since the Colorado WQCC has applied the designated classification of Segment 5 surface waters *Drinking Water Supply* as a goal.

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.

EG&G Position C: Not ARAR

Cuttler & Stanfield's position assumes that Segment 5 is subject to the same ARARs as Segment 4. 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. Therefore, the likely position justification for MCLs for Segment 5 will be the same as that stated for MCLs in Segment 4.

Likely Result: Relevant and Appropriate

- 7) SDWA NON-ZERO MCLGs CURRENTLY IN EFFECT, OR PUBLISHED AS FINAL RULES BUT NOT YET IN EFFECT FOR SEGMENT 4 SURFACE WATER

EPA/CDH Position: Relevant and Appropriate

EG&G Position A: Relevant and Appropriate

MCLGs are nonenforceable health goals at which no adverse health effects are known or

anticipated, per 40 CFR 141.2. MCLGs currently in effect are either zero or equivalent to the MCL; there is an MCLG for copper for which no MCL exist. Such goals cannot be applicable. However, CERCLA Section 121(d) requires that MCLGs be attained for onsite remedial actions, where relevant and appropriate. Furthermore, 40 CFR 300.430(e) requires consideration of non-zero MCLGs in the development of preliminary remediation goals and ultimately in the establishment of remedial action objectives. While not applicable, non-zero MCLGs must be attained, where relevant and appropriate.

EG&G Position B: 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 (Based on State Classifications)

8) PROPOSED NON-ZERO MCLGs

EPA/CDH Position: Unknown

EG&G Position: Not ARAR

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 ARAR, but may be TBC

9) ZERO MCLGs

EPA/CDH Position: Unknown

EG&G Position: Not ARAR

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

Likely Result: Not ARAR, but may be TBC

10) SDWA NON-ZERO MCLGs CURRENTLY IN EFFECT, OR PUBLISHED AS FINAL RULES BUT NOT YET IN EFFECT FOR SEGMENT 5 SURFACE WATER

EPA/CDH Position: Non-Zero MCLGs are Relevant and Appropriate

EPA and CDH state that the goal qualifier is only applied to the use classification, not the underlying standards. Therefore, their position is that SDWA MCLs, MCLGs, (and state standards) are to be applied as relevant and appropriate (ARAR) for Segment 5 surface waters.

EG&G Position A: TBC

MCLGs are nonenforceable health goals at which no adverse health effects are known or anticipated, per 40 CFR 141.2. MCLGs currently in effect are either zero or equivalent to the MCL; there is an MCLG for copper for which no MCL exist. Such goals cannot be applicable. However, CERCLA Section 121(d) requires that MCLGs be attained for onsite remedial actions, where relevant and appropriate. Furthermore, 40 CFR 300.430(e) requires consideration of non-zero MCLGs in the development of preliminary remediation goals and ultimately in the establishment of remedial action objectives. While not applicable, non-zero MCLGs must be attained, where relevant and appropriate. But also, since the Segment 5 classification of *Drinking Water Supply* has been applied as a goal by the CWQCC, MCLGs are accordingly applied as TBC.

EG&G Position B: Relevant and Appropriate

Cuttler & Stanfield's position assumes that Segment 5 is subject to the same ARARs as Segment 4. 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. Therefore, the likely

position justification for non-zero MCLGs Segment 5 will be the same as that stated for non-zero MCLGs for Segment 4.

Likely Result: Relevant and Appropriate

11) CWA AMBIENT WATER QUALITY CRITERIA FOR SURFACE WATER FOR HUMAN HEALTH AND AQUATIC LIFE

EPA/CDH Position: Relevant and Appropriate

EG&G Position A: TBC

AWQC are nonenforceable guidance developed under CWA Section 304 to be used by states in establishing surface water protection standards. Such guidance criteria cannot be applicable. Attainment of AWQC is required by CERCLA 121 Section (d) and 40 CFR 300.430(e) as was discussed for MCLGs. The NCP preamble (55 FR 8755) states that AWQC may be determined not to be relevant and appropriate where more appropriate state standards exist. While not ARARs, AWQC are applied as TBCs for RFP surface waters.

EG&G Position B: Relevant and Appropriate

EPA guidance (*ARARs Q's & A's: Compliance With Federal Water Quality Criteria*, June 1990) indicates that AWQC can be relevant and appropriate when no state standard exists. Also be aware that according to the proposed NCP preamble (53 FR 51442), AWQC can be adjusted to not include threshold level concentrations for fish consumption, thus making the AWQC less stringent. Whether a AWQC that also includes fish consumption should be selected depends on the likelihood of exposure occurring from this route and on whether fishing is included in that designation. The Colorado WQCC has classified RFP waters as *Aquatic Life 2 and Drinking Water Supply*. If the *Aquatic Life 2 Classification* is deleted, then it would be justifiable to adjust the AWQC for only drinking water. Given the current RFP surface water classifications, AWQC are applied as relevant and appropriate (ARAR). Whenever a state standard exists, the state standard will be presented instead of the AWQC.

EG&G Position C: 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 as *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**

FEDERAL GROUND WATER STANDARDS

12) SDWA MCLs CURRENTLY IN EFFECT, OR PUBLISHED AS FINAL RULES BUT NOT YET IN EFFECT FOR GROUND WATER

EPA/CDH Position: Relevant and Appropriate

EPA maintains the position that both MCLs and non-zero MCLGs are relevant and appropriate since the alluvial aquifer is classified as *Domestic Water Supply* by the State. In addition, EPA also disputes EG&G's claim that the alluvial ground water does not support the technical requirements of a potential drinking water supply because of the amount of water produced from various french drains at RFP.

EG&G Position A: TBC

As discussed for surface water, MCLs apply to public drinking water systems and are considered relevant and appropriate for potential drinking water sources under the Safe Drinking Water Act. Since RFP alluvial ground water does not support the technical requirements of a potential viable drinking water supply due to the minute volume of water in this aquifer (See *Public Health Risk Assessment 881 Hillside Area (OU1) Technical Memorandum No. 6 Exposure Scenarios*, EG&G, January 1992), MCLs are applied as TBC. Also, the State has classified the upper aquifer at RFP as *Domestic Water Supply*, and RFP is one of three locations within the State with such a classification. However, the other two locations are currently drinking water supplies for small communities. Therefore, it is still not certain that the classification meets the "applicability" requirements under 40 CFR 300.400(g)(4). These standards are applied as TBCs.

EG&G Position B: TBC

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 (Based on State Classifications)**

13) PROPOSED SDWA MCLs FOR GROUND WATER

EPA/CDH Position: Unknown

EG&G Position: Not ARAR

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

Likely Result: Not ARAR, but may be TBC

14) SDWA NON-ZERO MCLGs CURRENTLY IN EFFECT, OR PUBLISHED AS FINAL RULES BUT NOT YET IN EFFECT FOR GROUND WATER

EPA/CDH Position: Relevant and Appropriate

EPA maintains the position that both MCLs and non-zero MCLGs are relevant and appropriate since the alluvial aquifer is classified as *Domestic Water Supply* by the State. In addition, EPA also disputes EG&G's claim that the alluvial ground water does not support the technical requirements of a potential drinking water supply because of the amount of water produced from various french drains at RFP.

EG&G Position A: TBC

MCLGs are nonenforceable health goals at which no adverse health effects are known or anticipated, per 40 CFR 141.2. MCLGs currently in effect are either zero or equivalent to the MCL; there is an MCLG for copper for which no MCL exist. Such goals cannot be applicable. However, CERCLA Section 121(d) requires that MCLGs be attained for onsite remedial actions, where relevant and appropriate. Furthermore, 40 CFR 300.430(e) requires consideration of non-zero MCLGs in the development of preliminary remediation goals and ultimately in the establishment of remedial action objectives. While not applicable, non-zero MCLGs must be attained, where relevant and appropriate.

EG&G Position B: TBC

EPA guidance indicates that non-zero MCLGs are in fact are relevant and appropriate for waters designated as drinking water supplies. As stated above for MCLs, RFP alluvial ground water does not support the technical requirements of a drinking water supply (See *Public Health Risk Assessment 881 Hillside Area (OUI) Technical Memorandum No. 6 Exposure Scenarios*, EG&G, January 1992) and therefore Non-zero MCLGs are not relevant and appropriate, applied as TBC; MCLGs that at zero are also TBC.

EG&G Position C: Not ARAR

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 (Based on State Classifications)

15) PROPOSED SDWA NON-ZERO MCLGs FOR GROUND WATER

EPA/CDH Position: Unknown

EG&G Position: Not ARAR

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 ARAR, but May Be TBC

16) ZERO MCLGs FOR GROUND WATER

EPA/CDH Position: Not ARAR

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

EG&G Position: Not ARAR

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

Likely Result: Not ARAR, but may be TBC

17) RCRA 40 CFR PART 264 SUBPART F CONCENTRATION LIMITS FOR GROUND WATER

EPA/CDH Position: Applicable

EPA maintains that RCRA Subpart F is applicable since it applies to groundwater, regardless whether the groundwater is located in a RCRA/CERCLA unit.

EG&G Position A: Relevant and Appropriate

RCRA ground water requirements apply to hazardous constituents in the ground water underlying a waste management area at the point of compliance from a regulated unit. While most areas of RFP do not contain regulated units, they often do contain IHSSs (SWMUs). Accordingly, RCRA 40 CFR Part 264 Subpart F requirements, which require attainment of MCLs of background, or alternate concentration limits (ACLs), are relevant and appropriate and are applied as ARAR.

EG&G Position B: 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

18) CWA AMBIENT WATER QUALITY CRITERIA AS APPLIED TO GROUND WATER

EPA/CDH Position: Relevant and Appropriate

EG&G Position A: TBC

As discussed for surface water, AWQC cannot be applicable, however, they must be considered in the development of preliminary remediation goals (where such criteria are found to be relevant and appropriate). Relative to RFP ground water, fish and water ingestion AWQC may be considered relevant and appropriate and are applied as TBC. As with RFP surface waters, however, Colorado has identified both site-specific and state-wide ground water protection standards. These state standards are either nonenforceable or not of general applicability. However, it is probable that AWQC will be found to be less appropriate than the Colorado standards when preliminary and final remediation goals are established.

EG&G Position B: Adjusted AWQC to Not Include Fish Criteria is Relevant and Appropriate

In Position B, CWA AWQC have been applied as TBC. However, EPA guidance (*ARARs Q's & A's: Compliance With Federal Water Quality Criteria*, June 1990) indicates that AWQC can be relevant and appropriate when no state standard exists. Also be aware that according to the proposed NCP preamble (53 FR 51442), AWQC can be adjusted to not include threshold level concentrations for fish consumption, thus making the AWQC less stringent. Whether a AWQC that also includes fish consumption should be selected depends on the likelihood of exposure occurring from this route and on whether fishing is included in that designation. Obviously,

there are no fish in RFP ground water (to our knowledge) and accordingly, the Colorado WQCC has not classified RFP ground waters as *Aquatic Life 2*. The above stated adjustment should apply to the state standard as well. Therefore, the adjusted AWQC should be relevant and appropriate. Whenever a state standard exists, the state standard will be presented instead of the AWQC, unless the AWQC applies and is more stringent than the state standard.

EG&G Position C: 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

STATE SURFACE WATER STANDARDS

19) STATE-WIDE SURFACE WATER STANDARDS

EPA/CDH Position: Applicable

EG&G Position A: Applicable

The statewide surface water standards at Section 3.1.11(3) and at *Basic Standards for Organic Chemicals Table* (5 CCR 1002-8) (the use-designations triggering these tables are generally applicable and enforceable, although maybe they should be under 'site-specific') are ARAR since they are applied statewide and are enforceable through the NPDES permitting process.

EG&G Position B: 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

20) BASIN-SPECIFIC SURFACE WATER STANDARDS

EPA/CDH Position: Applicable

EG&G Position A: Applicable

Basin-Specific standards are ARAR since these standards are applied to facilities other than RFP and would be enforceable under the NPDES permitting process.

EG&G Position B: 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

21) SITE-SPECIFIC SURFACE WATER STANDARDS FOR INORGANICS

EPA/CDH Position: Applicable

These site-specific standards for metals and inorganics for Segment 4 of the Big Dry Creek Basin are applied consistently with such applications to other stream segments around the state and are enforceable through the NPDES permitting process. CDH contends that since there is a state-wide program (legal process) to set site-specific standards, these standards are applicable, even if they are not uniformly applied throughout the state.

For Segment 5, EPA and CDH state that the goal qualifier is only applied to the use classification, not the underlying standards. Therefore, these standards are applicable.

EG&G Position A: TBC

These site-specific standards for metals and inorganics for Segment 4 of the Big Dry Creek Basin are applied consistently with such applications to other stream segments around the state and are enforceable through the NPDES permitting process. However, since these are site-specific standards, they do not meet the criteria of general applicability. Therefore, it is the opinion of EG&G that these standards should be applied as TBC.

The Segment 5 standards have been assigned as goals by the CWQCC and accordingly are TBCs.

Note also that the state-wide classification process for uniformly applying classifications to stream segments was not applied to RFP stream segments, specifically for the *Drinking Water Supply* classification.

EG&G Position B: TBC

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

22) SITE-SPECIFIC SURFACE WATER STANDARDS FOR ADDITIONAL ORGANICS

EPA/CDH Position: Applicable

See number 21 above.

EG&G Position A: TBC

These standards are only applied at RFP and are therefore not of general applicability and can only be TBC. In addition, note that atrazine and simazine standards are established only for RFP.

EG&G Position B: TBC

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

23) SITE-SPECIFIC SURFACE WATER STANDARDS FOR RADIONUCLIDES

EPA/CDH Position: Applicable

See number 21 above.

EG&G Position A: TBC

These standards have only been applied at RFP and are therefore not of general applicability and can only be TBC. Also, there may be a jurisdictional question since the Atomic Energy Act preempts the state authority to set radionuclide limits for a DOE facility.

EG&G Position B: 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 ARAR, but May Be TBC**

STATE STANDARDS FOR GROUND WATER

24) 6 CCR 1007-3, PART 264 SUBPART F GROUND WATER PROTECTION REQUIREMENTS

EPA/CDH Position: Applicable

EG&G 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).¹ 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

25) STATE-WIDE STANDARDS FOR GROUND WATER

EPA/CDH Position: Applicable

EPA and CDH maintains that the state-wide standards for ground water are enforceable through the State's RCRA Corrective Action Authority and are therefore applicable.

¹ 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.

EG&G Position A: TBC

These standards are not independently enforceable. While they may be enforced through other state environmental regulatory programs (reportedly under RCRA Corrective Action Authority according to David Shelton of CDH) it is unclear whether this satisfies the NCP criteria for "promulgated." Accordingly, they are TBC. (See State of Ohio vs. DOE regarding sovereign immunity issue.)

EG&G Position B: TBC

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.²
- (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 ARAR Until the Permitting Program is Implemented

Long Term: Not ARAR with Respect to Preempted Radionuclides and Any Substance for which there is a More Stringent Federal Water Quality Criterion; Applicable for Other Substances

² There are no federal water quality criteria for groundwater currently. EPA, however, may promulgate such standards before the remediation of RFP is complete.

26) BASIN SPECIFIC STANDARDS FOR GROUND WATER

EPA/CDH Position: Applicable

Same as number 25 above.

EG&G Position A: TBC

CWQCC has proposed basin-specific standards. Since these standards are not yet promulgated, therefore they are TBC. (Note that the CWQCC has specifically stated in the proposed regulations that these standards are not to be applied to remedial actions.)

EG&G Position B: TBC

Same as number 25 above.

27) SITE-SPECIFIC STANDARDS FOR GROUND WATER

EPA/CDH Position: Applicable

EPA and CDH contends that since there is a state-wide program (legal process) to set site-specific standards, these standards are applicable, even if they are not uniformly applied throughout the state. Site-specific standards have also been applied to two other locations in Colorado.

EG&G Position A: TBC

These standards may be enforceable in July 1993 (although the enforcement date has already been delayed twice because of funding), through the State Discharge Permit System regulations. Until the standards become enforceable they are applied as TBC.

EG&G Position B: TBC

These standards are still not enforceable. For the general applicability issue, even though the classification process has been applied to two other locations in Colorado, they are current drinking water supplies for small towns. Since the RFP ground water is not a water supply, the state classification process was not uniformly applied.

EG&G Position C: TBC

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.³
- (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 ARAR Until the Permitting Program is Implemented

Long Term: Not ARAR with Respect to Preempted Radionuclides and Any Substance for which there is a More Stringent Federal Water Quality Criterion; Applicable for Other Substances

³ There are no federal water quality criteria for groundwater currently. EPA, however, may promulgate such standards before the remediation of RFP is complete.

OTHER STATE STANDARDS

28) SDWA-STATE PROGRAM

EG&G 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.**

29) FEDERAL RADIONUCLIDE STANDARDS

EG&G Position: **TBC**

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**