UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 2 6 2016

OFFICE OF
LAND AND EMERGENCY
MANAGEMENT

Dr. Michael R. Greenberg
Management Board Member
Consortium for Risk Evaluation with Stakeholder Participation
Vanderbilt University
Nashville, TN 37240

RE: Omnibus Risk Review Report (August 2015) (Holden Mine example)

Dear Dr. Greenberg,

We appreciate the opportunity to provide factual information on the issues about applicable or relevant and appropriate requirements (ARARs) raised in the Omnibus Risk Review Committee's discussion of the Holden Mine example in their report "A Review of the Use of Risk-Informed Management in the Cleanup Program for Former Defense Nuclear Sites" (August 2015) (Report), and the Committee's follow-up November 7, 2015, memo providing an additional explanation of the Committee's analysis (Enclosure). We understand that the various rules and regulations of the subjects undertaken by the Committee in the Report are numerous and highly complex and therefore, we hope further explanation by EPA in this letter and attachment will be helpful to the Committee.

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) statute provides a flexible process that allows for site-specific decision-making to account for the differing circumstances found at the wide variety of Superfund sites. The statute's flexibility also supports coordination with the relevant state, local and/or tribal governments, and local community. State acceptance and community acceptance are two criteria that must be considered for each remedy decision. Sites across the nation present a diverse range of land and groundwater use determinations. They also reflect differing geographical and hydrogeological conditions, types of contaminants and contaminant levels and other varying characteristics. As also noted by Andrew A. Fitz (Senior Counsel, the Attorney General of Washington) in his December 2015 letter to Jane Hedges (Nuclear Waste Program Manager, Washington Department of Ecology) the Report appears to not include consideration for the different circumstances, such as geographic location, and factors affecting the feasibility of cleanup for the respective actions taken at Holden Mine and Hanford to address contaminated groundwater.

We have addressed specific statements from the Holden Mine example in the enclosure. However, we want to again address your assertion that, in general, "ARAR decisions are not adequately documented in site decisional documents." As stated in our comments to the factual accuracy draft, the ARARs documented in the remedial investigation/feasibility study (RI/FS) lead up to the issuance of a Proposed Plan (PP). EPA guidance recommends an explanation of

important ARARs that are driving the remedy or other noteworthy factors so that all interested stakeholders are fully informed. We believe the existing process provides ample opportunity and time for review and comment on the selected ARARs for a specific remedy. A more detailed explanation of the statutory and regulatory requirements for ARAR identification and public comment is included in the attachment.

We hope this information is useful to you. If you would like to discuss this response further, Michele Indermark at (202)564-0794 or indermark.michele@epa.gov.

Sincerely,

Charlotte Bertrand, Acting Director
Federal Facility Restoration and Reuse Office

James E. Woolford, Director
Office of Superfund Remediation
and Technology Innovation

Enclosure

cc:
Mr. Mark Gilbertson, DOE
Mr. Rob Seifert, DOE
Ms. Robin Richardson, EPA OSRTI
Mr. Rich Albores, EPA FFEO
Mr. John Michaud, EPA OGC
Mr. Dennis Faulk, EPA Region 10

EPA Response: Omnibus Risk Review Holden Mine Example Detailed Analysis

This document is intended to be read in conjunction with the Office of the Attorney General of Washington's December 17, 2015, letter on the same subject.

The Omnibus Risk Review Committee's white paper entitled "The Holden Mine Example in Omnibus Risk Review Committee Report" (undated) references the Holden Mine as an example

> ...of a federal facility site in Washington State where groundwater cleanup requirements imposed pursuant to state law on a private party responsible for cleanup of the site appear to be substantially less stringent than groundwater cleanup requirements imposed pursuant to state law at Hanford...

In *both* the Hanford[1] and the Holden[2] Records of Decision (RODs), the applicable or relevant and appropriate requirements (ARARs) and remedial action objectives for groundwater cleanup are named as the Safe Drinking Water Act (SDWA) Maximum Contaminant Limits (MCLs) for the appropriate contaminants to ensure there is no adverse effect on groundwater. At both sites, remedy decisions also considered effects on surface water quality and aquatic biological receptors (the Columbia River at Hanford and Railroad Creek at Holden mine). Ambient water quality criteria, typically more stringent than MCLs, were also established as remedial action objectives for groundwater upwelling through the Columbia River bottom and groundwater discharging into Railroad Creek. In addition, for Holden Mine, the "...Selected Remedy includes relocation of a portion of Railroad Creek to eliminate the effects of ferricrete (formed from hazardous substances entering the creek) on aquatic receptors, and to prevent instability of the tailings pile slopes from erosion and scour." (USDA, 2012, p. 1-5). The selection of MCLs and ambient water quality criteria is consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP)[3] as cited in OSWER Directive 9283.1-33 (EPA 2009).[4]

The Committee's paper further states:

> At Holden Mine, the private party has not been required to cleanup highly-contaminated groundwater under the site's three enormous waste piles (nor was it required to remove or clean up the waste piles themselves, which were the obvious source of groundwater contamination). The concept used to enable the private party to avoid having to cleanup groundwater under the Holden waste piles was that by building groundwater barriers below the waste piles to contain contaminants, the waste piles could be designated as 'waste management areas,' (WMAs) and groundwater under the WMAs would not have to be treated to meet MCLs.

For factual clarification, the Holden Mine ROD correctly describes the site as land in the National Forest System; formerly operated by a private party and not on the National Priorities List. In this case of mixed

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[1] *Interim Action Record of Decision for US Department of Energy Hanford 100 Area and 200 Area*, Hanford Site, Benton County , Washington, July 1999, p. 26.

[2] *Record of Decision Holden Mine Site, Chelan County, Washington*, USDA Forest Service, January 2012, p. 1-4

[3] 40 CFR §300.430(3)(B) and (C)

[4] The June 26, 2009, EPA memorandum from James E. Woolford (Director of the Office of Superfund Remediation and Technology Innovation) and John Reeder (formerly the Director of the Federal Facilities Restoration and Reuse Office) entitled "Summary of Key Existing EPA CERCLA Policies for Groundwater Restoration" (Office of Solid Waste and Emergency Response Directive 9283.1-33) provides guidance on how to interpret the National Contingency Plan (NCP) which provides the blueprint for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) implementation.

that is reasonable"[5] and also that cleanup levels must be "attained throughout the contaminated plume."[6] In the case of Holden Mine, the Agencies concluded that 200 years was not a reasonable timeframe for groundwater treatment and, after reaching that conclusion, established the WMA to meet the NCP requirements. It appears that the Committee misunderstood the remedy and the remedy selection sequence. Even though the remedy does not include removal of the source tailings piles and main waste rock piles, the design included containment of the tailings and waste rock, which reduced exposure to the environment and elimination of risk to terrestrial plants and animals. The function of the barrier and treatment systems are to ensure groundwater achieves standards for surface water cleanup levels or groundwater MCLs. As noted, the lack of groundwater restoration under the WMAs at the Holden Mine site is consistent with EPA guidance (EPA, 2009).

The Omnibus Committee's paper states:

> At Hanford, by contrast, remedies selected to date have required DOE to actively clean up contaminated groundwater to drinking water standards (as well as perform extensive excavation in order to remove the sources of contamination to the groundwater); to our knowledge, the waste management area-groundwater barrier concept is not being used currently at Hanford to provide (as at Holden) a wholesale exception from groundwater cleanup requirements for any given area of existing contaminated groundwater.

And continues,

> The apparent disparity between groundwater cleanup (and source control) requirements imposed to date on the private party at Holden and those imposed to date on DOE at Hanford evidences that the state of Washington is not consistently applying groundwater cleanup requirements at all sites in the state – and that at least as compared to Holden, may be imposing more onerous and costly requirements at federal-funded Hanford than at a private-party – financed site.

There are many site-specific differences between the Hanford and Holden sites that resulted in the selection of different groundwater contamination remedies. Further, as we noted above, both sites' RODS contain SDWA MCLs and ambient water quality standards as remedial action objectives. The key site aspects that contributed to the Holden remedy selection—the application of groundwater/surface water standards and the use of WMAs—are detailed above.

The Hanford ROD (Hanford, 1999, p. 3) describes the 100 and 200 areas' site conditions: "Pre-Hanford uses included native American usage and agriculture." And, further states that

> The shoreline of the Columbia River is a valued ecological area within the Hanford Site. Portions of the shoreline with in the 100 Area are within the 100-year floodplain of the Columbia River. Semi-arid land with sparse covering of cold desert shrubs and drought resistant grasses dominates the Hanford Site's landscape.

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[5] "EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a timeframe that is reasonable given the particular circumstances of the site. When restoration of ground water to beneficial uses is not practicable, EPA expects to prevent further migration of the plume, prevent exposure to the contaminated ground water, and evaluate further risk reduction." [40 CFR §300.430(a)(l)(iii)(F)]

[6] "... remediation levels should generally be attained throughout the contaminated plume, or at and beyond the edge of the waste management area when waste is left in place." (55 Fed. Reg. 8713)

because ARAR decisions are not adequately documented in site decisional documents." The memo continues,

> ...there is very little written, publicly available documentation explaining ARAR selection and implementation for DOE sites generally and Hanford in particular;[8] site decisional documents do not adequately support or explain the basis for selection of specific ARARs for Hanford nor do they explain or support the use of these ARARs for selection of the remedy at the site.

ARARs documentation at any Superfund site is expected to follow statutory and regulatory requirements and EPA guidance. Per the NCP, ARARs must be described in the ROD.

The NCP §430(c) requires the following activities associated with the remedial investigation:

- Conducting interviews with local officials, community residents, public interest groups...to solicit their concerns and information needs, and to learn how and when citizens would like to be involved in the Superfund process.
- Preparing a formal community relations plan (CRP), based on the community interviews and other relevant information...
- Establishing at least one local information repository at or near the location of the response action...
- Informing the community of the availability of technical assistance grants...

In addition, the NCP §430(e) requires the lead agency, as part of the remedial investigation to "identify their respective potential ARARs related to the location of and contaminants at the site in a timely manner." For the feasibility study, the NCP §(e)(9)(I) includes "community acceptance" as an element of the nine criteria for evaluation of alternatives.

In accordance with CERCLA §117 (42 USC §9617) the proposed plan must be made available for public written and oral comment before adoption of any remedial action plan. In addition, both the RI/FS and proposed plan, as well as comments on them and the subsequent responses to the comments, are part of the administrative record that is available to the public for review.

For documenting the decision, CERCLA §117 requires publication of a notice that the final remedial action plan is available to the public prior to commencement of any remedial action. The NCP §430(f)(5), requires that "all facts, analyses of facts, and site-specific policy determinations considered in the course of carrying out activities in this section shall be documented, as appropriate, in a record of decision , in a level of detail appropriate to the site situation..." More specifically, the ROD shall "Indicate, as appropriate, the remediation goals, discussed in paragraph (e)(2)(i) of this section, that the remedy is expected to achieve." The EPA also has multiple guidances that elaborate on community involvement requirements in CERCLA and the NCP, but the *Community Relations in Superfund: A Handbook*, EPA/540/R-92/009 (January 1992) is the most comprehensive.

In the Holden Mine ROD's responsiveness summary, the Agencies "...determined that no significant changes to the remedy, as originally identified in the Proposed Plan, are necessary or appropriate." (USDA, 2012, pp. 2-120). "Minor changes" that occurred in response to public comments included changes to surface water cleanup levels and a re-evaluation of the terrestrial ecological risks that resulted in elimination of contaminants of concern. The Hanford groundwater ROD's responsiveness

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[8] For the purposes of the Hanford site, any party interested in the selection of ARARs could read the documents related to the remedial investigation, feasibility study, proposed plan and record of decision in order to fully understand the ARAR selection process for a particular operable unit.

The Holden Mine Example in Omnibus Risk Review Committee Report

CERCLA provides that federal and state cleanup requirements imposed at federal facilities must be the same as those imposed at non-governmental (e.g., private party) sites. [1] The statute further requires, inter alia, that, in order to be designated as an ARAR applicable to a federal facility (or non-governmental facility), a state requirement must be consistently applied to other sites in the state.[2]

The Omnibus Risk Review Committee Report (Report) references Holden Mine as an example of a federal facility site in Washington State where groundwater cleanup requirements imposed pursuant to state law on a private party responsible for cleanup of the site appear to be substantially less stringent than groundwater cleanup requirements imposed pursuant to state law at Hanford, a federal facility in the same state that is being remediated by DOE with public funds. At both sites, the Washington State Model Toxics Control Act (MTCA) (and implementing regulations) was the framework for cleanup decision making with respect to cleanup of groundwater. Although the sites are not identical, it is notable that at both sites, site groundwater flows into surface water, and that a stated concern of the regulators is to prevent contaminants in groundwater from migrating from the site into surface water. The surface water body of concern at Hanford is the adjacent Hanford Reach of the Columbia River; at Holden, the surface water at issue is a highly-contaminated river that flows through the mine site, empties into a drinking water reservoir 10 miles away and later joins the Columbia River. Both sites are abutted by federally-protected, ecologically valuable lands and contain lands significant to tribal nations. However, measures required by regulators for clean up of groundwater

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[1] With respect to federal cleanup requirements, Section 120 (a) states that "[e]ach department, agency, and instrumentality of the United States (including the executive, legislative, and judicial branches of government) shall be subject to, and comply with, this chapter *in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity.*" (Emphasis added.) With respect to state cleanup requirements, subparagraph (4) of Section 120 (a) provides that, "[s]tate laws concerning removal and remedial action, including State laws regarding enforcement, shall apply to removal and remedial action at facilities owned or operated by a department, agency, or instrumentality of the United States or facilities that are the subject of a deferral under subsection (h) (3) (C) of this section when such facilities are not included on the National Priorities List. *The preceding sentence shall not apply to the extent a State law would apply any standard or requirement to such facilities which is more stringent than the standards and requirements applicable to facilities which are not owned or operated by any such department, agency, or instrumentality.*" (Emphasis added.)

[2] (40CFR§300.400(g) (4). See also EPA, OSWER, Fact Sheet, "CERCLA Compliance with State Requirements" (Dec.1989).

Hanford than at a private-party-financed site.

EPA's comment on the Holden Mine groundwater cleanup example in the factual accuracy draft of the report provided to the Agency was carefully read and considered by the Omnibus Risk Review Committee; however, EPA's comment on Holden did not prompt the Committee to make changes to that section of the Report because the EPA comment was not relevant or responsive to any assertion in the Omnibus Report. EPA stated that at the Hanford Environmental Remediation Disposal Facility (ERDF) --a new-build, RCRA-style waste disposal facility, not a groundwater contamination site-- regulators used the "waste management area" concept to allow flexibility in locating the point of compliance for *future groundwater monitoring* at ERDF. The Omnibus Report did not discuss this facility or its regulation. Rather, the Report stated the WMA concept had not been used at Hanford to provide DOE relief from the requirement to *clean up an area of existing contaminated groundwater.* EPA did not dispute this statement. In sharp contrast to the contaminated groundwater cleanup requirements imposed at Hanford, a WMA designation was used to provide relief from key ground water cleanup requirements at Holden Mine.

In a recent meeting with Committee representatives, an EPA official asked the Committee to detail the differences in how state ARARs had been applied at Holden vs. at Hanford with respect to the Committee's example (i.e., groundwater remediation requirements). For reasons explained in the Committee's report, this comparison would be difficult if not impossible to make because ARAR decisions are not adequately documented in site decisional documents. As discussed in the Committee's report--and also detailed in EPA's National Remedy Review Board (NRRB) remedy reviews for Hanford dating back to 2000 (and most recently, in NRRB's March 2015 review), there is very little written, publicly available documentation explaining ARAR selection and implementation for DOE sites generally and Hanford in particular; site decisional documents do not adequately support or explain the basis for selection of specific ARARs for Hanford nor do they explain or support the use of these ARARs for selection of the remedy at the site. It is for precisely this reason that the Committee report recommends institution of a transparent, well-documented ARAR selection and implementation process for all potentially high cost state ARARs at DOE sites.