

EDO Principal Correspondence Control

FROM: DUE: / / EDO CONTROL: G20120058  
DOC DT: 12/23/11  
FINAL REPLY:

Candace Head-Dylla  
Bluewater Valley  
Downsteam Alliance

TO:

Chairman Jaczko, etal

FOR SIGNATURE OF : \*\* GRN \*\* CRC NO: 12-0034

DESC:

Homestake/Barrick Gold Uranium Mill Tailings  
Superfund Site - Release Concerns  
(EDATS: SECY-2012-0058)

ROUTING:

Borchardt  
Weber  
Virgilio  
Ash  
Mamish  
OGC/GC  
Collins, RIV  
Merzke, OEDO

DATE: 01/31/12

ASSIGNED TO: CONTACT:  
FSME Satorius

SPECIAL INSTRUCTIONS OR REMARKS:

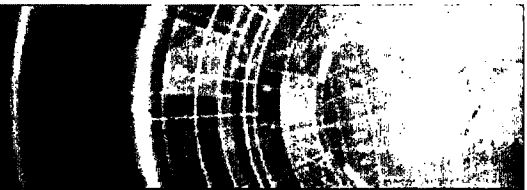
For Appropriate Action. Ref. G20110334.

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# EDATS

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**Subject:** Homestake/Barrick Gold Uranium Mill Tailings Superfund Site - Release Concerns

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**CC Routing:** RegionIV

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**Related Task:**

**Recurring Item:** NO

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**OEDO Monthly Report Item:** NO

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**Approval Level:** No Approval Required

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**Special Instructions:** For Appropriate Action. Ref. G20110334.

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**Originator Name:** Candace Head-Dylla

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**Addressee:** Chairman Jaczko, et al.,

**Date Response Requested by Originator:** NONE

**Incoming Task Received:** Letter

OFFICE OF THE SECRETARY  
CORRESPONDENCE CONTROL TICKET

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**ACTION OFFICE:** EDO

**AUTHOR:** Candace Head-Dylla, BVDA  
**AFFILIATION:**  
**ADDRESSEE:** Gregory Jaczko  
**SUBJECT:** Bluewater Valley Downstream Alliance. Community concerns about the length of exposure to radon and contaminated water, continuing contamination, failed remediation

**ACTION:** Appropriate  
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December 23, 2011

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**Bluewater Valley Downstream Alliance Page 2 12/23/11**  
***Community concerns about the length of exposure to radon and contaminated water,  
continuing contamination, failed remediation.***

Dear Legislators and Homestake/Barrick Gold Regulators,

We have written to you, cooperated with your processes, pleaded, engaged in your studies, and once again we are telling you that what has been done to remediate the 200-acre, 100-foot high radioactive toxic dump we live next to is not enough.

The New Mexico Environment Department (NMED), the Nuclear Regulatory Commission (NRC), and the United States EPA (EPA) recently met because the EPA had concerns about how this site is being remediated (letters attached). The NRC told EPA if they did not approve of the way the site was being remediated, the EPA could take over the site. The EPA declined and NMED stood by silently, even though BVDA had specifically requested NMED ask EPA to take the lead on this site. Our community has no confidence in the NRC and no trust in its processes. Thus, we were disappointed that the EPA did not step forward and NMED did not push for their lead on the Homestake/Barrick Gold site.

We were further disappointed to learn that our call for a study to locate a regional facility (possibly in the Ambrosia Lake area) for the off-site removal of the large tailings pile at the Homestake/Barrick Gold site and removal from sites on the Navajo reservation was also ignored.

We have been advised to send separate letters for each of the issues related to our site. As a working class community and organization whose members all have jobs, we do not have time to send each issue under a separate cover. So we are sending, in this letter, separate pages, which you can copy with our heading and distribute to the appropriate parties. We would like you to let us know who, in your office, will be addressing each of these issues and create a time and date when we can call in monthly for updates. We have been patient for over 30 years. Enough is enough.

In brief, we request the following:

**1. Advise the U.S. Department of Energy (DOE) to fund EPA to study sites for removal of uranium mill tailings from the Homestake/Barrick Gold Superfund Site and mine and mill tailings from the Red Water Pond Road (RWPRC) and other Navajo Communities to a safe, permanent location in a lined, state-of-the-art facility possibly via slurry and conveyor technology to minimize community and worker exposures. This makes sense because DOE will have long-term responsibility for this site. Letting Homestake/Barrick study the feasibility of such a move is obviously not acceptable.**

**2. BVDA requires a meeting in 2012 between the EPA, NRC, NMED, Navajo EPA and New Mexico's federal congressional delegation so that lawmakers can understand what regulations are blocking full cleanup of BVDA and RWPRC sites to pre-mining and milling conditions.**

The following pages will refresh your memories about our site and provide one-page overviews of each issue. This will allow you to assign issues as needed. We would like a response regarding who, from each of your offices, will be handling each issue. Our patience is waning.

**Bluewater Valley Downstream Alliance Page 3 12/23/11**

***Community concerns about the length of exposure to radon and contaminated water, continuing contamination, failed remediation.***

**Background**

The Bluewater Valley Downstream Alliance communities have been dealing with the effects of the Homestake/Barrick Gold uranium mill tailings Superfund site for over 30 years now. Community members are dying and we continue to pay for water and therefore must limit our use because the water we owned was taken from us through this contamination. Our health risks have never been adequately assessed but our own BVDA survey shows a ring of cancer around the site and other related diseases and conditions throughout the community. All this on top of considerable water resources lost to the state that may well be needed in the future.

- EPA's recent actions, including an ongoing Risk Assessment and Remedial System Evaluation by the U.S. Army Corps of Engineers have been long overdue and were indeed warranted to address deficiencies in NRC regulated remediation activities at the site. Homestake/Barrick Gold's plans for remediation have all failed. The first plan to keep the plume contained on the site boundaries only pushed the contamination plume further into the community. Every new approach since then has been an unqualified failure. In the beginning, Homestake/Barrick Gold told the community only the alluvial aquifer would be affected and the site would be remediated within 10 years. The contamination has now migrated to the Upper Chinle, Middle Chinle, Lower Chinle, and possibly the San Andres aquifers and we are over 20 years past their target date for cleanup.
- Over 1 million acre feet of water has been contaminated (1,203,200) by Homestake/Barrick Gold and lost to future generations of New Mexicans.
- There is no public confidence in the current remediation. If an uninformed public is confident, it is because those of us who live with this disaster have not done enough to make the real story known. We are working to change that. We believe that with time, the shameful history of regulation at this site will be exposed. The NRC has acted with willful disregard of the environment and of our community's health and welfare and EPA and NMED, thus far, have allowed this to happen.
- It is time to actually clean up this contamination and restore our community's health and environment.
- NRC, EPA and NMED have allowed Homestake/Barrick Gold to pretend they were remediating the site for far too long. While the site is being remediated, our community is left exposed because the NRC's requirements for a "working" site do not protect our health and do not move us forward to restoring the site to pre-mining and milling conditions.
- The U.S. Army Corps of Engineers (USACE) recommended Homestake/Barrick Gold stop adding water to the Large Tailings Pile. The community supports this. Common sense demands it. NRC says there is no need to do it because the "current remediation systems have been making significant progress in improving groundwater." They have

made progress because the clean water is diluting the contamination and this looks like improvement. NRC simply ignores the many technical reasons to stop the flushing, ignores the community, ignores the USACE, and lets Homestake/Barrick Gold try any approach they would like because our community is expendable. The evidence supports our conclusion that the NRC is not concerned with death in our community. If we die, the NRC will no longer have to even pretend to bother with us.

- We have been treated outrageously by every NRC representative who has ever been in contact with us. So much so that, even though we are a traditional, rural community, used to following rules and respecting officials, we have no respect left for this agency. We feel certain they are using every regulation in their power to support Homestake/Barrick Gold. We do not understand why our taxes continue to pay their salaries. Let the nuclear industry fund the NRC because the “regulations” would remain the same from a community standpoint.
- The EPA must act more assertively in regard to the Homestake/Barrick Gold Superfund site. They must work with NMED to insist on moving the tailings pile to a safe, permanent location so that our community’s water can be restored to pre-mining and milling conditions and radon risks can be eliminated. Even then, our community will continue to suffer health effects but at least the exposure can be eliminated.

**Each issue is briefed in full on the following pages.**

**Bluewater Valley Downstream Alliance Page 5 12/23/11**  
***Community concerns about the length of exposure to radon and contaminated water,  
continuing contamination, failed remediation.***

**Moving tailings to safe, permanent location.**

BVDA has been told this is a political problem not a technical problem. We fail to understand why the Moab tailings pile can be moved but not ours. It is essential for a number of reasons:

1. The current tailings pile is unlined and we are told it will leak “into perpetuity” by an EPA staffer. This continued leaking means continued water contamination. Removing the major source of contamination will allow Homestake/Barrick Gold to make progress on cleaning the contaminated water rather than just diluting and further contaminating the underlying aquifers.
2. Tailings removal also reduces the community’s radon exposure. We have been exposed to this site for too long.
3. Tailings removal can be done safely and other communities, including the Red Water Pond Road Community, Mariano Lake, and Blue Gap also need off-site removal. Finding a centrally located site for a state-of-the-art regional storage facility is needed immediately.
4. Allowing Homestake/Barrick Gold to “study the feasibility” of off-site removal is ludicrous. The company has always opposed such a move and NMED, EPA and NRC allowing Homestake/Barrick to gather a set of facts to support their position is counter to all principles of environmental justice.
5. NMED and EPA assured us at the July 2011 meeting they would look into a “mechanism” for a real study to locate a regional facility to handle the Homestake/Barrick tailings and the waste that needs to be removed from the Navajo Nation. We want a real effort in finding this location.
6. Off-site removal is the least that should be done for a community that has been given no opportunity for early or meaningful participation in the process. BVDA demands these basic considerations, which are the foundation of environmental justice.
7. Homestake/Barrick Gold can well afford the expense. It recently posted record profits and netted \$2.5 billion last year.
8. To ensure the safety of future generations, the site chosen for a regional facility must be suitable from a hydro-geological standpoint and materials and design must ensure the safety of groundwater and surrounding environment for hundreds of years.
9. Hiring preference for jobs from off-site removal should be given to affected communities.



**Bluewater Valley Downstream Alliance Page 6 12/23/11**  
***Community concerns about the length of exposure to radon and contaminated water,  
continuing contamination, failed remediation.***

**Radon protection and remediation.**

BVDA community members have been exposed to high radon levels for many years now. Our own health study shows high incidences of thyroid disease and cancer, particularly in residences closest to the tailings piles.

In recent correspondence between NRC and EPA, we learned of several issues that cause great concern in our community. Namely:

1. That Homestake/Barrick Gold “has elected to use 20 percent radon daughter equilibrium in their public dose calculations” and “an occupancy factor of 0.75 in its calculation of the dose to the nearest resident.” This clearly shows what this company has been allowed to get away with under the NRC’s lead.
2. The large tailings pile has a radon barrier that is not protective but Homestake/Barrick Gold gets away with it because it is a “working site.” Again, by pretending to remediate, without really doing it, standards remain relaxed for this multi-billion dollar corporation. A state-of-the-art final cover is planned “once groundwater remediation is complete and settlement of the tailings has curtailed.” The date for completion is pushed forward every five years. In the meantime, our community’s health is at risk.
3. NRC says EPA’s cancer risk range is “not the appropriate standard to be applied to the HMC site during remediation.” Again, because this remediation is taking so long, our community is suffering long-term exposure that flies in the face of common sense and what the regulations were designed to do. NRC’s approach considers what is best for Homestake/Barrick Gold. EPA’s standards are more protective of human health.
4. Now BVDA has been told Homestake/Barrick Gold will pay residents for remediation but we will be required to sign a waiver that Homestake/Barrick Gold is not responsible for the radon. This is the same type of blackmail that forced many of our older residents to sign away their right to hold the company accountable in return for clean drinking water. The water agreement was unconscionable. Residents should receive remediation with no strings attached and **we need it now!** While we wait, many of us live in homes that far exceed acceptable standards, adding to the dosing we have already received from this site.

**Clean water to pre-mining and milling conditions.**

1. BVDA has evidence of the quality of water in our community before the uranium mill tailings was dumped on the ground, without a liner, and in a floodplain.
2. The community wants its groundwater aquifers restored to pre-mining and milling quality. We want it now! We have waited for this long enough.
3. BVDA refuses to dispute background further.
4. The community had clean water and we want it back. If Homestake/Barrick Gold, whose site will someday have to be managed by the Department of Energy, is not responsible for all the contamination, the regulatory agencies need to make that determination and find and assign cleanup to the responsible parties.
5. Because the chemicals used in the Homestake/Barrick milling process were different than those used by upstream companies, it should be possible to determine if contaminants are from Homestake/Barrick or upstream operations. This will require a series of wells to the north of the site to assure a potential source is not missed. The wells in place now are entirely inadequate.
6. The regulatory agencies might also want to consider that the injection system currently in place may have pushed contaminants northward past the large tailings pile and might look like the source is upstream polluters when, in fact, it is Homestake/Barrick's failed remediation attempts. Careful, technical analysis is required and the community has experts who should be involved in this analysis.

**Meet with regulators and legislators to identify roadblocks to full cleanup.**

1. BVDA wishes to identify a Congressman willing to demonstrate leadership on this issue and convene a meeting early in 2012 between NMED, EPA Region 6, and NRC and our congressional delegation in order to identify any roadblocks to a full cleanup to pre-mining and milling aquifer conditions, to off-site removal of the tailings, and to complete remediation of ongoing radon exposure.
2. BVDA will organize the logistical aspects. We just need a legislator to extend invitations to fellow legislators and ask regulators with decision-making authority to attend.
3. The Multicultural Alliance for a Safe Environment has agreed to help host this meeting and it would be an opportunity for legislators to show their commitment to environmental justice in New Mexico.



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Attachments:  
Coleman to Camper  
Camper to Coleman



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

JUL 00 2011

Mr. Larry Camper  
Division of Waste Management and Environmental Protection  
United States Nuclear Regulatory Commission  
Mail Stop T-8F5  
11545 Rockville Pike  
Rockville, MD 20852

Re: Homestake Mining Company Superfund Site, Grants, New Mexico

Dear Mr. Camper:

This is the letter you requested from my office as a follow-up to our teleconference of June 8, 2011.

The December 14, 1993 Memorandum of Understanding (MOU) between EPA Region 6 and NRC Region IV acknowledges that the parties have overlapping authority in connection with the Homestake Mining Company Site in Cibola County, New Mexico. The stated objective of EPA's review and comment on NRC closure activities is to assure that activities to be conducted under NRC's regulatory authority will allow attainment of applicable or relevant and appropriate requirements under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. 9601 et seq., outside of the byproduct material disposal site.

After attempting to work with the NRC in the general spirit of cooperation and in accordance with the MOU to help assure that remedial actions occur in a timely and effective manner (I. Purpose" 59 FR 3741), please consider this letter a notification of deficiency under MOU IV.3. 59 FR 3741. A listing of Likely Federal Radiation Applicable or Relevant and Appropriate Requirements is enclosed as Attachment A. Specific instances of NRC activities that do not comply with CERCLA standards and prevent the EPA from securing compliance are listed in Attachment B to this letter. The issues fall into the following major categories:

1. Protectiveness, Compliance with ARARs.

The EPA's role under the MOU (as well as CERCLA and the National Contingency Plan (NCP)) is to determine and document that the response action is protective and that compliance with ARARs is achieved. The EPA's attempts to secure information from NRC or from Homestake to inform and/or document determinations about the protectiveness of the remedy, particularly as it affects the area outside of the byproduct material disposal site, have been stymied by NRC at every turn. The most recent example is NRC's opposition and refusal to consider working with Homestake to gather additional information as recommended in the Remedial Site Evaluation

report. NRC has expressed opposition to a cooperative approach which allows both federal Agencies and the State of New Mexico to work collectively in considering appropriate requirements and subsequently calling for the licensee/PRP to implement remedial measures that protect the public.

2. Administrative Record for Rulemaking (deletion from the National Priorities List), 40 CFR §300.425(e).

Deletion of a site from the National Priorities List (NPL) is a rulemaking supported by an administrative record. Administrative Record requirements for remedy selection at 40 CFR 300.800 et seq. (*see, esp.* 40 CFR 300.810(a)) comprise a portion of the record supporting site deletion, along with site characterization, risk assessment, and remedy implementation records. In a typical case, such records are generated contemporaneously with the subject actions. A proposal to delete the Site (the area undergoing closure under the NRC license and the areal extent of contamination emanating from it) from the NPL will have to be supported by factual documentation supporting the legal conclusion that i) Responsible parties or other persons have implemented all appropriate response actions required; ii) All appropriate Fund-financed response under CERCLA has been implemented and no further response action by responsible parties is appropriate; or iii) The remedial investigation has shown that the release poses no significant threat to public health or the environment and, therefore, taking of remedial measures is not appropriate. 40 CFR 300.425(e)(1)(i)-(iii). A proposal to delete the Site from the NPL will also require concurrence from the State of New Mexico (40 CFR 300.425(e)(2)).

3. Community Relations.

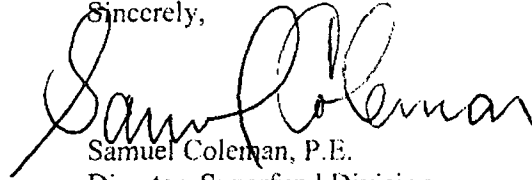
Community outreach is an integral part of the NCP. Public interest generates questions about response measures in progress. In the course of a lengthy closure or remediation project constantly generating new information, the community may have questions about the validity of prior findings in view of more recent findings. Questions from the community, and substantive technical answers from the regulator or responsible party, are properly incorporated into the administrative record as a lasting record to demonstrate the validity of the decisions made and the actions taken. Apart from NCP regulatory requirements and federal policy promoting transparency in government, responding timely, directly, and substantively to community concerns engenders the sense within the community that their concerns are being addressed.

NRC appears to define its regulatory responsibilities narrowly, to exclude facilitating development of the information that enables EPA to fulfill its regulatory responsibilities. As a practical matter, to the extent that questions about the effect of Homestake's closure activities on areas outside those covered by the license are not sufficiently addressed and documented in real time, EPA will be compelled to revisit them in the context of compiling the record for deletion, whether in the form of an Expanded Site Investigation, a full Remedial Investigation, or some other NCP-mandated investigation to build the record necessary to support site deletion.

Please note that the EPA considers the issues discussed in this letter critical to the public's understanding of the remediation of the Site as well as critical to protection of public health.

Delaying commencement of the CERCLA process until the NRC process is completed is a waste of both private and public resources, contrary to the MOU objective of completing site actions in a timely and effective manner, and inconsistent with the most basic principles of good governance. Spending incrementally more time to investigate, consider, decide, respond, and document issues jointly in real time is far preferable – in EPA’s view -- to subjecting the regulated entity and the community to sequential Agency actions.

Sincerely,

A handwritten signature in black ink that reads "Samuel Coleman". The signature is fluid and cursive, with a long, sweeping underline that extends to the left.

Samuel Coleman, P.E.  
Director, Superfund Division

cc: John Buckley, Project Manager, NRC  
Al Cox, Project Manager, Homestake Mining Company

ATTACHMENT A: Likely Federal Radiation Applicable or Relevant and Appropriate Requirements (Table from *Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination*, OSWER Dir. No. 9200.4-18)

**Attachment A:**

**Likely Federal Radiation Applicable or Relevant and Appropriate Requirements  
(ARARs)**

The attached draft table of Federal standards is a listing of Federal radiation regulations that may be "Applicable or Relevant and Appropriate Requirements" (ARARs) for Superfund response actions. This list is not a comprehensive list of Federal radiation standards. It must also be cautioned that the selection of ARARs is site-specific and those site-specific determinations may differ from the attached analysis for some of the following ARARs.

Likely Federal Radiation (AEA, UMTRCA, CAA, CWA, SDWA) ARARs			
Standard	Citation	When is standard Applicable (Conduct/Operation or Level of Cleanup <sup>1</sup> )	When is standard potentially a Relevant and Appropriate Requirement
Maximum contaminant levels (MCLs). Drinking water regulations designed to protect human health from the potential adverse effects of drinking water contaminants.	40 CFR 141	<i>Rarely:</i> At the tap where water will be provided directly to 25 or more people or will be supplied to 15 or more service connections.	Where ground or surface water is considered a potential or current source of drinking water
Concentration limits for liquid effluents from facilities that extract and process uranium, radium, and vanadium ores.	40 CFR 440 Subpart C	<i>Very Unlikely:</i> Applies to surface water discharges from certain kinds of mines and mills	Discharges to surface waters of some kinds of radioactive waste.



Likely Federal Radiation (AEA, UMTRCA, CAA, CWA, SDWA) ARARs			
Standard	Citation	When is standard Applicable (Conduct/Operation or Level of Cleanup <sup>1</sup> )	When is standard potentially a Relevant and Appropriate Requirement
Federal Water Quality Criteria (FWQC) and State Water Quality Standards (WQS). Criteria/standards for protection of aquatic life and/or human health depending upon the designated water use.	Water Quality Criteria; Report of the National Technical Advisory Committee to the Secretary of the Interior; April 1, 1968.	Discharge from a CERCLA site to surface water. (C/O)	Restoration of contaminated surface water. (LC)
Concentration limits for cleanup of radium-226, radium-228, and thorium in soil at inactive uranium processing sites designated for remedial action. <sup>2</sup>	40 CFR 192.12(a), 192.32(b)(2), and 192.41	<i>Never</i> : Standards are applicable only to UMTRCA sites that are exempt from CERCLA	Sites with soil contaminated with radium-226, radium-228, and/or thorium

<sup>2</sup>For further information, see OSWER directive entitled "Use of Soil Cleanup Criteria in Subpart B of 40 CFR Part 192 as Remediation Goals for CERCLA sites."

Likely Federal Radiation (AEA, UMTRCA, CAA, CWA, SDWA) ARARs			
Standard	Citation	When is standard Applicable (Conduct/Operation or Level of Cleanup <sup>1</sup> )	When is standard potentially a Relevant and Appropriate Requirement
Combined exposure limits for cleanup of radon decay products in buildings at inactive uranium processing sites designated for remedial action	40 CFR 192.12(b)(1) and 192.41(b)	<i>Never:</i> Standards are applicable only to UMTRCA sites that are exempt from CERCLA	Sites with radioactive contamination that is currently, or may potentially, result in radon that is caused by site related contamination migrating from the soil into buildings
Concentration limits for cleanup of gamma radiation in buildings at inactive uranium processing sites designated for remedial action	40 CFR 192.12(b)(2)	<i>Never:</i> Standards are applicable only to UMTRCA sites that are exempt from CERCLA	Sites with radioactive contamination that is currently, or may potentially, emit gamma radiation
Design requirements for remedial actions that involve disposal for controlling combined releases of radon-220 and radon-222 to the atmosphere at inactive uranium processing sites designated for remedial action	40 CFR 192.02	<i>Never:</i> Standards are applicable only to UMTRCA sites that are exempt from CERCLA	Sites with radon-220 or radon-222 as contaminants which will be disposed of on-site.

Likely Federal Radiation (AEA, UMTRCA, CAA, CWA, SDWA) ARARs			
Standard	Citation	When is standard Applicable (Conduct/Operation or Level of Cleanup <sup>1</sup> )	When is standard potentially a Relevant and Appropriate Requirement
Performance objectives for the land disposal of low level radioactive waste (LLW).	10 CFR 61.41	<i>Unlikely:</i> Existing licensed LLW disposal sites at the time of license renewal. (LC) <i>Unlikely that this would occur.</i>	Previously closed sites containing LLW if the waste will be permanently left on site.
National Emission Standards for Hazardous Air Pollutants (NESHAPs) under the Clean Air Act, that apply to radionuclides.	40 CFR 61 Subparts H and I	Airborne emissions during the cleanup of Federal Facilities and licensed NRC facilities. (CO)	Cleanup of other sites with radioactive contamination.
Radiological criteria for license termination.	10 CFR 20 Subpart E	Existing licensed sites at the time of license termination. (LC)	Previously closed sites.

1. Conduct/operation (C/O) refers to those standards which are typically ARARs for the conduct or operation of the remedial action. Level of Cleanup (LC) refers to those standards which are typically ARARs for determining the final level of cleanup.

## ATTACHMENT B

### Examples of Deficiencies of Nuclear Regulatory Commission Actions under CERCLA

1. Exceedence of the standard published in NRC regulations. The annual air monitoring reports in 2006-2007 indicate releases of radon gas outside the area covered by NRC license in concentrations exceeding EPA standards. For purposes of its calculation, HMC removed radon daughters. EPA evaluates Rn-222 through the inhalation routes with daughters present, resulting in a difference of two orders of magnitude. EPA does not consider the NRC standards such as those found at 10 CFR 20, Appendix B, Table 2 to fall within the acceptable risk range published in the National Contingency Plan (NCP). However, even using the NRC standard as a reference point for releases of radon, the annual air monitoring reports indicate that it was exceeded in 2006-2007. Exceeding a standard that EPA may not consider protective in its own right raises questions concerning protectiveness of human health at this site.
2. Noncompliance with EPA's UMTRCA regulations. The annual air monitoring reports from 2006-2007 also indicate releases of 0.4 to 1.2 picocurie per liter (pCi/l) above the annual average concentrations. Regulations EPA published in the early 1990s at 40 CFR 192.02(b)(2) require reasonable assurance that releases of radon-222 from residual radioactive material to the atmosphere "will not... (2) Increase the annual average concentration of radon-222 in air at or above any location outside the disposal site by more than one-half picocurie per liter." Using the subject regulation as a potential ARAR or a reference point for evaluating protectiveness in light of releases of radon, the annual air monitoring reports indicate that the regulations were exceeded in 2006-2007, raising further questions concerning protectiveness of human health.
3. Noncompliance with potential ARARs (40 CFR 61, Subpart B, specifically 40 CFR 61.22). The National Emissions Standards for Hazardous Air Pollutants (NESHAP) standard requires limiting emission of radon-222 to the ambient air from an underground uranium mine so as not to exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr. This NESHAP provision is potentially relevant and appropriate because of the nature of the contaminants, including the decay chain, released to the ambient air. Releases at even 10 mrem/yr might be outside the NCP risk range, and therefore not protective of human health.
4. Exceedences of the NCP Risk Range. Over the last few years, the radon air monitors at the Homestake fence line (especially air monitors HMC#4 and HMC#5, the closest monitors to the residential community) have been continuously recording outdoor ambient air radon concentrations associated with  $1 \times 10^{-3}$  and higher cancer risk levels. Recent data from 2010 air monitoring showed that the average radon concentration for the HMC#5 monitor was still high at 1.45 pCi/l. Subtracting the background concentration of 0.66 pCi/l, the excess average radon concentration was calculated to be 0.79 pCi/l. However, the 0.79 pCi/l air radon concentration represents a cancer risk of

$2.9 \times 10^{-3}$  through the inhalation and external exposure routes of intake. If we include the risk from radon background levels, that will be a risk of  $5.3 \times 10^{-3}$  cancer risk. The risk from the site more than doubles the risk from exposure solely from background levels. The cancer risks are greater than the EPA's acceptable cancer risk range of  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$  as published in the NCP.

5. Administrative Record for Rulemaking (40 CFR 300.425(c)(4)). In order to delete a site from the NPL, the EPA must publish an administrative record for comment, take comments, and respond to the comments to determine whether deletion is appropriate. The EPA's practice is to respond to comments as they are received. The EPA received a number of comments on the Remedial Site Evaluation (RSE) report in late 2010 and early 2011, including the RSE recommendations for collection of additional data to resolve particular issues of concern to the authors of the report and the community. NRC has declined (without explanation) to pursue any of the recommendations in the RSE report.

6. Community Relations. Community involvement requirements run throughout the NCP; community acceptance is one of the nine criteria upon which CERCLA remedy selection is based (see, e.g., 40 CFR 300.430(e)(9)(I)). The EPA practice is to keep the public informed through fact sheets, Q&A documents, open houses, and public meetings, in addition to the basic NCP-mandated opportunities for public participation. Responses to community concerns become an integral part of the record supporting Agency decision-making under the NCP. NRC's approach to community relations, apparently performing the minimum amount necessary under NRC rules, does not provide an adequate record for the EPA regulatory requirements.

October 3, 2011

Mr. Samuel Coleman, Director  
Superfund Division  
EPA Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, TX 75202-2733

SUBJECT: RESPONSE TO U.S. ENVIRONMENTAL PROTECTION AGENCY LETTER  
DATED JULY 8, 2011

Dear Mr. Coleman:

On a June 8, 2011 telephone conference, you and I discussed the roles and responsibilities of the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Environmental Protection Agency Region VI (EPA) in ongoing remediation activities at the Homestake Mining Company (HMC) site near Grants, New Mexico. The purpose of the call was to find a way to resolve apparent conflicts between NRC and EPA regarding the measures necessary to demonstrate that the current restoration activities being undertaken by HMC are sufficient and that the end result of those activities will be protective of public health and safety and the environment. During our discussion you stated that EPA's unilateral actions were warranted to address deficiencies in NRC regulated remediation activities at the site. In a subsequent letter dated July 8, 2011, you further stated that NRC activities may not comply with Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) requirements, and indicated that you are notifying NRC of these deficiencies in accordance with Section IV.3 of the 1993 Memorandum of Understanding between NRC and EPA concerning the Homestake Uranium Mill (MOU). Clearly, our June 8 telephone conference and other NRC-initiated activities have been unsuccessful in resolving the differences between our two agencies. I find this unfortunate because continued disagreement will only lead to a negative impact on both on the progress that can be made in remediating the HMC site and in public confidence in that remediation. In this response to your July 8 letter, we address the specifics of your letter and again propose ways to find a productive path forward.

At the outset, let me say that NRC has considered the comments provided and we disagree with EPA's conclusions regarding HMC's compliance with health and safety standards and the suggestion that NRC is doing the minimum with respect to public interaction. Although we provide detailed responses to the specific concerns raised in your letter in the enclosure, I do want to respond to your statement that NRC has "stymied" EPA's attempts to obtain information from NRC and from HMC. On the contrary, all NRC information that is not security related or proprietary is available not only to EPA, but to anyone involved or interested in the HMC site via NRC's Agency-wide Document Access and Management System (ADAMS). In fact, to further the flow of information between EPA, NRC, and the New Mexico Environment Department (NMED), in 2008 NRC took the lead in establishing the "core-team"

composed of NRC, EPA, and NMED management and technical staff to address issues related to HMC, and established the Executive Steering Committee to resolve regulatory differences of opinion. Although that effort has faltered recently, in all previous interactions between NRC and EPA Senior Management, concerns about accessing information were never raised as an issue. Because the NRC promotes openness as a core value, I find this comment particularly troubling.

I also want to address the MOU between our two agencies. EPA's Record of Decision for the HMC site (EPA/ROD/R06-89/050) stipulated that the NRC and the EPA would sign a formal agreement outlining each agency's regulatory responsibilities at the site. It is clear from the historical record that EPA believed that implementation of the MOU would be sufficient for EPA to remove the HMC site from the National Priorities List. In December 1993, the MOU was signed by NRC and EPA, and it designated the NRC as the lead federal agency for all remedial and reclamation activities at the site. Under the MOU, EPA and NRC agreed that the requirements of 10 CFR Part 40, Appendix A, are the Federal environmental and public health requirements applicable or relevant and appropriate to the HMC site. It was also agreed that conformance with 10 CFR Part 40, Appendix A, will generally assure conformance with CERCLA requirements. Based on your recent letter, it appears that EPA now does not agree that NRC's requirements are sufficient and believes that imposing additional requirements based on your CERCLA authority is necessary. I am confused by this as it seems to contravene what EPA agreed to in the MOU and imposes additional requirements on HMC that will not provide a health and safety benefit.

The NRC is still interested in finding a way that allows for a coordinated regulatory effort between NRC, EPA and NMED that promotes timely remediation of the HMC site and builds public confidence in the outcome. Consequently, we propose an Executive Steering Committee meeting to discuss the following topics:

1. The viability of the current MOU between NRC and EPA;
2. Is NRC's role as lead regulator responsible for remediation activities at the site still appropriate given EPA's concerns or should other models where EPA becomes the lead regulator be considered;
3. What specific actions being undertaken at HMC are inconsistent with 10 CFR Part 40, Appendix A, or EPA/ROD/R06-89/050;
4. What remedial actions must be taken to assure that the HMC site can be removed from the NPL in accordance with EPA procedures OSWER Directive 9320.2-22, dated May 2011.

I will be in New Mexico to meet with Mr. Dave Martin, Secretary of the Environment on October 19, 2011. We have agreed to hold an Executive Steering Committee meeting with Mr. Martin on October 19, 2011, commencing at 10 a.m. at the State offices, in Santa Fe, New Mexico.

S. Coleman

3

I believe that you agree that timely and effective remediation of the HMC site should be the goal for all regulatory agencies involved. I look forward to meeting with you and Mr. Martin to discuss these issues. If you have comments or questions regarding this letter, please contact me at 301-416-6673.

Sincerely,

**/RA/**

Larry W. Camper, Director  
Division of Waste Management  
and Environmental Protection  
Office of Federal and State Materials  
and Environmental Management Programs

Docket No.: 40-8903  
License No.: SUA-1471

Enclosure: As Stated

cc: Homestake Service List



I believe that you agree that timely and effective remediation of the HMC site should be the goal for all regulatory agencies involved. I look forward to meeting with you and Mr. Martin to discuss these issues. If you have comments or questions regarding this letter, please contact me at 301-416-6673.

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## U.S. Environmental Protection Agency Examples of Deficiencies

### 1. Exceedance of the standard published in U.S. Nuclear Regulatory Commission (NRC) regulations

The annual air monitoring reports in 2006 – 2007 do not indicate that the NRC standards found in 10 CFR Part 20, Appendix B, Table 2 have been exceeded for radon releases from Homestead Mining Company (HMC) operations. HMC has remained in compliance with the annual total effective dose equivalent (TEDE) of 0.1 rem (1 mSv), which pertains to individual members of the public as stated in 10 CFR Part 20.1301. NRC regulations allow the licensee to demonstrate compliance with public dose limits by calculations or measurements showing that the individual likely to receive the maximum dose from the facility does not exceed the public dose limit, or by comparing the concentrations at the site perimeter to those specified in Table 2 of Appendix B to 10 CFR Part 20. HMC has elected to show that the individual likely to receive the maximum dose from the facility does not exceed the dose limit to individual members of the public. The exposure at monitoring stations nearest to the residences (HMC-4 and HMC-5) is considered and the station with the highest exposure is used for calculating the TEDE to the maximum exposed individual.

The use of this radon data to predict the dose to the nearest resident is considered to be a conservative approach and the exposure at the residences should be less than that at the site perimeter. The NRC value in Table 2 for radon-222 with daughters present assumes continuous exposure to  $1 \text{ E } -10 \text{ } \mu\text{Ci/mL}$  ( $0.1\text{pCi/L}$ ) in full equilibrium with the short-lived daughter products. The use of this effluent concentration value may not be appropriate in all circumstances since radon may not always be in full equilibrium with daughter products. HMC has elected to use 20 percent radon daughter equilibrium in their public dose calculations. HMC has also used an occupancy factor of 0.75 in its calculation of the dose to the nearest resident. Therefore, 10 CFR Part 20 standards have not been exceeded and HMC continues to comply with the NRC regulations.

### 2. Noncompliance with U.S. Environmental Protection Agency's (EPA's) UMTRCA regulations

Regulations found in 40 CFR 192, Subparts A-C were developed specifically for the cleanup of uranium mill tailings at 24 sites designated under Section 102(a)(1) of UMTRCA (Title I sites) to Title I and are applicable requirements only for the Title I sites. Also, 40 CFR 192.02(b)(2) is a design criteria for radon barriers and is only applicable to Title I sites that have a final radon barrier in place. NRC notes that HMC is a Title II site, and as such, the previously cited regulations are not applicable.

Currently, HMC is in the closure period of their license and only has an interim radon barrier in place. The final radon barrier and associated erosion protection (final cover) have been designed to conform to the standard found in 10 CFR Part 40, Appendix A, Criterion 6(2) that are equivalent to or more stringent than requirements found in 40 CFR Part 192, Subparts D and E. The final cover will be completed once groundwater remediation is complete and settlement of the tailings has curtailed. Therefore, the cited UMTRCA regulations have not been exceeded since they are not applicable to Title II sites and do not pertain to sites without a final cover in place.

Enclosure

3. Noncompliance with potential ARARs (40 CFR Part 61, Subpart B, specifically 40 CFR 61.22)

Appendix A of EPA/ROD/R06-89/050 identifies the ARARs for remedial action at the site. The following ARARs are identified: (1) EPA Guideline of 4 pCi/l (indoor radon); (2) 10 CFR Part 20; (3) 10 CFR Part 40, Appendix A; (4) 40 CFR Part 192; and (5) State of New Mexico ARARs (4 pCi/l for indoor radon, and 10 CFR Part 20 airborne concentration limits). The EPA assertion that any remedial action is deficient because of noncompliance with a "potential ARAR" seems unjustified. Compliance should be measured against a regulatory standard, not a "potential" ARAR. The NRC staff has discussed this use of arbitrary ARARs with your staff on several occasions. NRC believes that 40 CFR 61.22 is not applicable to the HMC site since it applies to limiting emission of radon-222 to the ambient environment from an underground uranium mine.

With regard to radon air emissions, HMC is required to comply with a TEDE of 100 mrem/yr established by 10 CFR 20.1301(a)(1). HMC has demonstrated compliance with this regulatory limit in the Semi-Annual Environmental Monitoring Reports.

Given that HMC is currently in compliance with all NRC public dose limits and EPA established ARARs, NRC does not believe that EPA has provided reasonable justification that HMC remedial actions are currently deficient.

4. Exceedance of the NCP Risk Range

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) provides EPA's acceptable cancer risk range of  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ . EPA guidance states that the risk range should be used to establish final cleanup levels for CERCLA sites. Therefore, EPA's cancer risk range is not the appropriate standard to be applied to the HMC site during remediation.

Although NRC does not believe that exceeding the risk range during remediation of the HMC site is a result of deficient remedial actions, we are not opposed to EPA's evaluation of the health risk from radon during the remediation period. In fact, NRC and EPA staffs have had numerous technical discussions regarding the scope of EPA's Risk Assessment (RA), and the Radon Sampling Strategy for the HMC site. NRC cooperated with EPA to develop a technically defensible RA scope acceptable to EPA, NRC, and New Mexico Environment Department (NMED). Unfortunately, EPA revised the agreed upon RA scope without NRC technical review. Technical shortcomings in the current RA scope, Radon Sampling Strategy, and Radon Sampling Plan will likely result in technically indefensible results. NRC will provide technical assistance to EPA, if requested, to create a defensible RA.

5. Administrative Record for Rulemaking (40 CFR 300.425(e)(4))

NRC finds EPA's assertion that "NRC has declined (without explanation) to pursue any of the recommendations in the RSE report" to be unfounded and without merit. NRC staff actively participated in EPA's Remedial System Evaluation (RSE) process from the beginning. Staff provided technical comments on the RSE scope, RSE Draft Report, and RSE Final Report. In April 2011, NRC, EPA, and NMED met in Albuquerque, NM, to discuss the RSE Final Report recommendations. At that meeting EPA was reminded that NRC's regulatory process would not

allow NRC to order HMC to implement the RSE recommendations unless EPA demonstrated that the current remedial actions are deficient or unsatisfactory. The agencies agreed that the current remedial actions are achieving results and the RSE recommendations would only serve to make the current remedial actions more efficient. In fact, the RSE report states that the current remediation systems have been making significant progress in improving groundwater quality at the site. Furthermore, EPA states in its March 24, 2011, letter to NRC that the "RSE observations and recommendations are not intended to imply a deficiency in the remedial work conducted by site managers but are offered as constructive suggestions."

Although NRC agrees that some of the RSE recommendations may result in remedial process efficiencies, the RSE report does not provide the information necessary to show that implementation of the recommendations will increase efficiency, effectiveness, and/or protectiveness of the current remedial strategy. As acknowledged in your letter, NRC is currently reviewing a revised CAP, submitted by HMC in January 2006. HMC has expressed a willingness to evaluate a number of the RSE recommendations to determine if remedial process efficiencies can be gained. NRC will work with HMC to incorporate any necessary revisions into the CAP as stated in NRC's letter dated April 21, 2011.

Since EPA stated in its letter to NRC dated March 24, 2011 that ongoing remedial actions are not deficient, NRC is not clear whether there are any remedial action deficiencies for the NRC to address.

## 6. Community Relations

NRC agrees that public involvement in the regulatory process is very important. NRC's regulatory process requires public involvement at many stages throughout the licensing process. NRC's licensing process is open and transparent. All incoming and outgoing documents are placed in NRC's Agency-wide Documents Access and Management System (ADAMS) and are available for public review.

NRC applauds EPA's efforts to keep the public informed. The public has requested that NRC, EPA, and NMED provide a coordinated approach to regulating the remedial actions at the HMC site. During the past year the agencies made significant progress in coordinating our community outreach activities. To my knowledge, NRC, EPA and NMED were all participants in several meetings with the public during the past year. NRC staff participated in person when time and travel budget allowed, but at other times were required to participate via conference call.

NRC appreciates EPA's effort to publish the Homestake Mining Company Superfund Site Activities Update Report (HMC fact sheet and Q&A). Preparation of the report required considerable time and effort by all three regulatory agencies. It is unfortunate that EPA published and distributed a draft version of the fact sheet that contained inaccuracies instead of the final copy agreed to by all of the involved State and Federal regulatory agencies.

Homestake Distribution List

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