Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Misael Cabrera
Director

August 17, 2016

Anna Krueger
U.S. Environmental Protection Agency
Office of Resource Conservation and Recovery (ORCR)
1200 Pennsylvania Ave, N.W.
Mail Code 5303-P
Washington, DC 20460

Re: Request for Additional Consultation and Testing of Financial Responsibility Rules

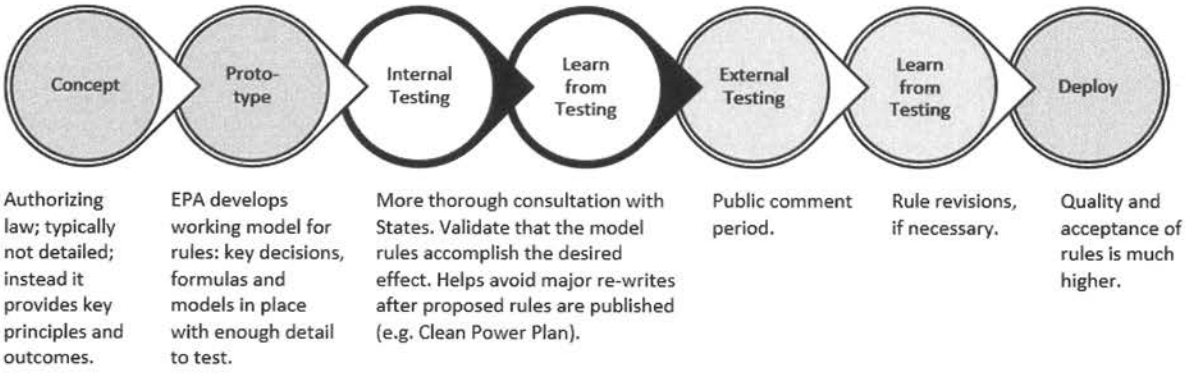
Dear Ms. Krueger:

We appreciate the opportunity to provide consultation on the upcoming proposed rules for financial responsibility (FR) in the hard rock mining sector. We would be pleased to discuss these comments further at your convenience. This letter is expressly intended to supersede the Arizona Department of Environmental Quality's (ADEQ) February 24, 2011 letter regarding FR.

ADEQ agrees that FR is needed for adequate release response for many industries. Hard rock mining, however, poses a particular challenge for EPA due to the number of existing state FR programs across the country that address various impacts associated with the hard rock mining industry, especially impacts to state groundwater resources under state regulatory jurisdiction. While CERCLA 114(d) preemption of state FR may be debatable between EPA and the states, legal action against EPA and state-led FR programs when EPA finalizes the CERCLA 108(b) rules is a near certainty.

In order to avoid the waste associated with those court challenges to EPA and state programs, ADEQ would like to partner with EPA and other western states of EPA's choosing to conduct several "case studies" using a representative sampling of actual mine sites and risks. The concept is simply to test the rules and FR formula in their current state of design and evaluate their impact and probability of acceptance and effectiveness. Internal testing is a typical step in Lean design as shown in Figure 1.

FIGURE 1 – Typical Lean Design Process as Applied to Rules



This proposed process is based on Lean principles and is applicable to everything from software design to remediation and yes, new rules. EPA and cooperating states could collaboratively test and evaluate the rules to validate them as is, or refine their design to avoid costly litigation against EPA and the states. In order to do this properly, we respectfully request that EPA file for an extension from the court. We know that this is not a trivial request, and we believe that it is warranted for the following reasons:

- The question of federal preemption will lead to wasteful litigation against the states that have existing FR requirements. Every state with an existing FR program will have to choose between abandoning its state FR program and defending it in court.
- Without appropriate clarification from EPA on the scope and coverage of the formula for calculating FR, EPA could be assuming unnecessary regulatory authority over state groundwater resources, an area historically beyond federal regulatory authority or jurisdiction, and could lead to wasteful litigation against EPA.
- ADEQ has run a screening financial analysis based on the example provided by EPA on May 18, 2016. Our screening test suggests that the financial impact to Arizona mines may be extreme – totaling an estimated $1.8 billion in FR liability for just two of Arizona's mines.
- ADEQ does not believe that the spirit of Executive Order 13132 is being honored – FR is fundamentally about assigning a monetary value to environmental risk and EPA's formula for doing so has not been shared and we fear may exclude applicable state environmental response action standards and procedures, as well as critical site-specific factors.
- Based on the limited information provided to date, it is not clear how the current approach to FR accurately reflects risk. Given the potential financial impacts noted above, the risk assessment methodology must be both sound and representative.

LEGAL ACTION AGAINST EPA AND STATE FR IS A NEAR CERTAINTY

Arizona's FR requirements for hard rock mining facilities are found in its Aquifer Protection Permit Program, the Arizona Mined Land Reclamation Act, and the regulations governing lessees conducting hard rock mining on State land. The Aquifer Protection Permit program, A.R.S. §§ 49-241- 252, is a regulatory program, designed to prevent groundwater pollution and remediate unpermitted discharges through closure procedures. It protects Arizona's aquifers by ensuring that facilities are designed, constructed, operated, maintained and closed in an environmentally protective fashion.

The financial assurance required as a part of this permit program is available to the State to help it protect and properly address (through closure procedures) discharges in the event that a facility does not meet the requirements of its permit. In fact, the FR for "closure" and "post closure monitoring and maintenance" under the Arizona APP program is defined broadly to include "all actions specified in an aquifer protection permit ..., as well as elimination, to the greatest degree practicable, of any reasonable probability of further discharge from the facility," and those activities that are necessary to "keep the facility in compliance with ... the [state] aquifer water quality standards" and to "perform any remedial, mitigative or corrective actions or controls as specified in the aquifer protection permit."[1]

Arizona's Mined Land Reclamation Act, A.R.S. §§ 27-902 -1026, requires FR as part of its reclamation program, which requires that hard rock mining facilities repair surface disturbances and revegetate upon completion of their mining activities. Finally, the State Land Department requires FR of its lessees, including those who conduct hard rock mining, to protect the value of the land its holds. A.A.C. R12-5-1805(i). In addition to these Arizona-specific risk mitigation mechanisms, hard rock mines have other duties and requirements that help mitigate the risk of releases as shown in Figure 2.

Every state with an existing FR program will have to choose between the waste of abandoning its FR programs or the waste of litigation to defend it.

CERCLA 114(d) states that "no owner or operator of a vessel or facility who establishes and maintains evidence of financial responsibility in accordance with this title shall be required under any State or local law, rule, or regulation to establish or maintain any other evidence of financial responsibility in connection with liability for the release of a hazardous substance from such vessel or facility." Many Arizona requirements discussed above plainly involve "liability for the release of a hazardous substance" and therefore will fall within the scope of the Section. It is not difficult, in fact it is quite easy to argue that Arizona's APP program already provides *at least some* of the protections sought by the CERCLA Section 108(b) FR requirements, especially with

[1]ARS §§ 49-201.5 and 49-201.30.

respect to groundwater quality protection, mitigation and remediation. Certainly we should all expect the hard rock mines affected by these rules to pursue all avenues, administrative and judicial, to avoid duplicative regulation by the state.

FIGURE 2 – Risk Mitigation Mechanisms

Operating mines have a variety of risk mitigation mechanisms in place. State-led mechanisms may be the first to be challenged in court if the preemption questions are not addressed in advance.

WQARF Tax	Corporate income taxes are used to fund the Water Quality Revolving Fund which includes monies for orphan site clean-up
Aquifer Protection Permit FA	Covers closure, post-closure and remediation of unpermitted releases
State Trust Reclamation Bond	Covers damage to lands, water and other tangible improvements
Mined Land Reclamation FA	Covers reclamation of land
Federal Agency FR requirements for mines on Federal Lands	Protects Federal Lands
Asset retirement obligations	Requires disclosure of environmental liability – influences balance sheet
Bankruptcy Court Prioritization of Reclamation	Courts have prioritized reclamation in bankruptcy proceedings. (e.g. ASARCO Multi-State Trust)

The unmitigated risks of abandoned hard rock mines should not be attributed to highly regulated, modern-day mines.

Given that groundwater regulation has traditionally been within the jurisdiction of the states and that the CERCLA 108(b) rule may inadvertently change that as a matter of law, we believe that EPA's rulemaking should address the potential preemption explicitly and consider options including:

- Exemptions for states like Arizona that have existing programs; accepting that some augmentation of existing programs may be required.
- Clarification that EPA's formula will apply existing state environmental protection and remediation standards and procedures to calculate the appropriate FR to avoid unnecessary federal intervention or regulation of state groundwater resources.
- Delegation of CERCLA 108(b) FR to states to be incorporated into existing programs.
- Specific prohibition of state FR for any requirements that may be considered duplicative.

EPA's position on preemption, and to be fair, ADEQ's previous position as expressed in our February 24, 2011 letter, rests on a single court case, *Chemclene Corp. v. Pennsylvania Dep't of Envtl. Res.*, 497 A.2d 268 (Pa. Commw. Ct. 1985), which did not necessarily involve environmental remediation or response actions to releases of hazardous substances. This case is not dispositive and mine operators and their attorneys have already explained that the sheer magnitude of the FR from both state and federal programs would necessitate additional litigation. Clearly, multiple court challenges to state FR programs throughout the country would be time consuming, wasteful, and counter-productive to the goals of the rule.

POTENTIALLY EXTREME FINANCIAL IMPACT

As EPA's partner in protecting the environment, we would be remiss if we did not acknowledge that hyperbolic claims of economic impact face nearly every new regulation. In this case, we hope our sincere concern is not considered mere exaggeration. In fact, we hope our screening analysis is simply flawed.

We conducted a screening analysis using two actual mine sites in Arizona. Our analysis was quite simple given that EPA has not shared its formula: we leveraged EPA's May 18, 2016 example and scaled up based on the acreage of the actual mine's open pit. This limited analysis yielded disturbing results. The FR requirement sums to $1.8 billion for just two mines. Table 1 compares the estimated FR amount for the two mines to related values.

TABLE 1 – Magnitude of Estimated FR for Just Two AZ Mines

	VALUE	ITEM
1.8 BILLION DOLLARS	23%	of EPA's total budget for 2015
	30%	of the Mining Gross Domestic Product in AZ for 2013 (last year reported[2])
	156%	of EPA's Superfund Budget for 2015

Again, we accept that our limited analysis may be incorrect and hope that EPA's actual formula yields much lower values. We strongly believe that additional collaboration with ADEQ and other western states would result in better acceptance and less wasteful litigation and perhaps a stronger model. Alternatively, we ask that EPA use the information presented in Table 2 to calculate the actual FR values and determine whether or not the current formula exaggerates risk or is economically punitive.

Table 2 presents estimated FR required for the two mines – 1.8 billion dollars.

[2] http://www.azcommerce.com/resources/economy/gdp

TABLE 2 – Screening for Economic Impact at Just Two AZ Mines

MINE	SITE FEATURES (EST.)	ESTIMATED[3] NET FR
EPA Example May 18, 2016	Open Pit = 1,000 acres Stockpiles = 2,000 acres Tailing = 700 acres	$525 M
Actual Arizona Mine 1	Open Pit = 1,600 acres (active) Stockpiles Outside Open Pit Capture Zone = 1,900 acres Tailings = 4,200 acres	$840 M
Actual Arizona Mine 2	Open Pit = 1,800 acres (active) Stockpiles Outside Open Pit Capture Zone = 2,500 acres Tailings = 4,300 acres	$945 M
Total for two Arizona Mines (sum excludes example)		$1.8 Billion

ADEQUACY OF RISK ASSESSMENT

ADEQ believes it is important that any FR requirements not be based on the risk associated with cleaning up historical hard rock mining facilities that were often abandoned before the modern era of environmental controls. In justifying its decision to begin promulgation of FR rules, EPA cited exclusively to cost estimates drawn from experience with historical, heavily contaminated facilities. In all of the examples cited by EPA, mining began in the late 19th century; even the more recent mining activities that took place at the cited mines occurred before many environmental controls were required. Given this apparent reliance on cleanup costs at historic sites, ADEQ wants to emphasize the importance of including information that accounts for modern environmental controls, including available technologies, environmental management systems, and other mitigation measures, as well as existing state groundwater remediation response action standards in setting FR amounts.

We are also concerned about reliance on footprint as an indicator of environmental risk. For example, there are several NPL mine sites associated with smaller footprints, including Blackbird (ID), Formosa (OR), Stibnite (ID), Yerington (NV), Summitville (CO), Gilt Edge (SD), and Zortman – Landusky/Pegasus (MT).

Given the complexities and potential impacts of FR, ADEQ suggests the use of decision science techniques coupled with rigorous statistics to establish site-specific probabilistic risk models or formulas that align with state response action standards. This approach, calibrated to include modern-day controls at hard rock mine sites subject to existing state groundwater

[3] Estimated based on ratio of open pit acreage from EPA's May 18, 2016 example to actual mine open pit acreage. Additional analysis would require disclosure of EPA's formula for financial responsibility.

remediation response action standards, should lead to representative risk assessments. Having said that, these models must be evaluated not just based on the model construction and calibration, but on the relevancy of the model outcomes in context with actual state standards and site conditions.

ADEQ would consider it a privilege to work with EPA and other states on validating or refining the formula or model construction and calibration. The creation of a sound model for such a financially impactful rule requires time, talent and testing. In order to do this properly, we respectfully request that EPA file for an extension from the court and provide more details to the states for deeper collaboration. As previously noted, we know that this is not a trivial request, and we appreciate your consideration.

Sincerely,

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Director

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