New Mexico
Environmental Law Center
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October 21, 2020

Dear Director Schoeppner and Mr. Vollbrecht:

The Multicultural Alliance for a Safe Environment and Amigos Bravos submit the following comments regarding Rio Grande Resources Corp.'s ("RGR") proposed Mt. Taylor Mine ("Mine") Closure/Closeout Plan ("CCP") modification, Modification 20-1. These comments were prepared in consultation with Jim Kuipers, P.E.

While we are pleased that RGR has submitted proposed revisions to its 2013 CCP, which in our view was inadequate in several respects, we continue to have reservations about RGR's reclamation and groundwater remediation plans. These comments are intended to assist the Mining and Minerals Division ("MMD") and New Mexico Environment Department ("NMED") in creating a stronger CCP that is more responsive to the needs of communities most directly impacted by the Mine.

I. Background

The Mt. Taylor Mine first began producing uranium, on a test basis, in 1979. Test production ceased in 1982. Operations resumed in 1985 and ceased again in 1990. The Mt. Taylor Mine has not produced any uranium since 1990. Indeed, in 1991, the Mine's operator allowed the Mine to flood.

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The Mine received an existing mine permit under the New Mexico Mining Act in 1995. MMD first approved the Mine's closure/closeout plan on December 18, 1998. On December 19, 2019, RGR announced it would be closing the Mine and would begin mine reclamation activities.

II. Legal Comments

Before presenting our technical comments on the CCP, we have two legal concerns.

A. The Mt. Taylor Mine is Permanently Closed without further Opportunity to Return to Standby Status.

Notwithstanding RGR's December 3, 2019, letter announcing that it would close the Mine and begin closure/closeout activities, we do not know if MMD has specifically or formally addressed whether RGR's most recent standby period has ended. MMD first approved the Mine's CCP on December 18, 1998. According to Permit Revision 13-2 to Permit No C1002RE Mount Taylor Mine Part R Temporary Cessation, the original term of standby status for the Mt. Taylor Mine was approved by MMD under Revision 99-1 on October 12, 1999 and expired on October 7, 2004. As noted in Petition for Review of Director's Action, Dated December 29, 2017, Permit Revision 13-2 to Permit CI002RE ("Petition 18-01"), RGR received its second standby permit in July 2005 which expired in July 2010. RGR received a third standby permit revision in 2012, which expired in 2014. RGR submitted an application for the fourth and final five-year standby permit on October 12, 2014 that MMD was processing under Revision 14-1 when RGR proposed to bring the mine back into operation in 2017. It is notable that, as we alleged in Petition 18-01 and in testimony to the Mining Commission, RGR did not actually intend to conduct any activities that could be construed as actual mining, such as beginning mine dewatering, and instead only delayed standby by two years while they conducted reclamation activities. Without that delay, RGR would likely have received an additional five-year standby permit in 2014-2015 which would have expired in 2019. Even with the two-year delay in 2017, the standby permit, if re-issued today, would expire in 2021 because RGR's final standby permit only had two years left. *See,* NMSA 1978 § 69-36-7(E) (operator may not obtain standby status for more than four five-year terms).

Given the public concern about the Mine's adverse environmental impacts and RGR's history of using the regulatory framework for its own economic benefit, MMD should issue a clear and concise determination that RGR has no further opportunity to apply for standby or reactivation status. In sum, we ask for a determination that the Mine is closed and undergoing reclamation and that any future proposals to mine would be subject to the New Mine provisions of the New Mexico Mining Act, NMSA 1978, § 69-36-12, and regulations, 19.10.6 NMAC.

B. The Changes to RGR's CCP are a Revision not a Modification.

The New Mexico Mining Act (NMSA 1978, § 69-36-1 to § 69-36-20) requires the adoption of regulations for permit modifications which are contained in NMAC 19.10.5.505.B.[1] The regulations require "revisions" to include public notice and an

[1] 19.10.5.505 PERMIT MODIFICATIONS AND REVISIONS:
B. Revisions are modifications that require public notice and an opportunity for public hearing pursuant to 19.10.9 NMAC. The Director shall review each request for a permit modification to determine whether it must be processed as a revision.
(1) The Director shall consider the following factors and their level of impact to determine whether a permit modification would have a significant environmental impact:
(a) Whether the proposed change would authorize an expansion of design limits beyond that currently authorized by the permit that:
(i) Would be located in or is expected to have a direct surface impact on wetlands, springs, perennial or intermittent streams, lakes, rivers, reservoirs or riparian areas.
(ii) Is expected to have a direct impact on ground water that has a total dissolved solids concentration of less than 10,000 mg/l.
(iii) Is expected to result in point or non-point source surface or subsurface releases of acid or other toxic substances from the permit area.
(iv) Would be located in designated critical habitat areas as determined in accordance with the federal Endangered Species Act of 1973 or in areas determined by the Department of Game and Fish likely to result in an adverse impact on an endangered species designated in accordance with the Wildlife Conservation Act, Sections 17-2-37 through 17-2-46 NMSA 1978 or by the State Forestry Division for the Endangered Plants Act, Section 75-6-1 NMSA 1978.
(v) Would adversely impact cultural resources listed on either the National Register of Historic Places or the State Register of Cultural Properties.
(vi) Would be located in a known cemetery or other burial ground.
(vii) Would be located in an area designated as a Federal Wilderness Area, Wilderness Study Area, Area of Critical Environmental Concern, or an area within the national Wild and Scenic River System.
(b) Whether the proposed change would result in a significant increase in the amount of financial assurance as determined by the Director; or
(c) Whether the proposed change would significantly depart from the nature or scale of the permit.
(2) An application for a permit modification or revision shall be accompanied by sufficient

opportunity for public hearing. The Director must review each request for permit modification to determine if it should be processed as a revision. In making that determination, the Director must consider various factors listed in the regulation, and their level of impact to determine whether a permit modification would have a significant impact and should be treated as a revision.

The factors enumerated below clearly suggest the proposed permit modification has the potential to result in a significant environmental impact. As a result, the Director should require that the application be treated as a revision.

- The proposed change would significantly increase the design limits of the Waste Pile/Contaminated Soil Waste Cell and also result in significant environmental impacts due to the proposed PMLU as "water supply" as further described herein and summarized in the following points. *See*, 19.10.505.B.(1)(a) NMAC.
    - If the PMLU is changed to include water supply, the resulting long-term regional drawdown of the groundwater aquifers has the potential to impact surface waters such as wetlands, springs, perennial or intermittent streams, lakes, rivers, reservoirs or riparian areas. 19.10.505.B.(1)(a)(i) NMAC.
    - As presently proposed, infiltration through the Waste Pile/Contaminated Soil Waste Cell has the potential to impact ground water with a total dissolved solids concentration of less than 10,000 mg/l. 19.10.505.B.(1)(a)(ii) NMAC.
    - A change to a PMLU of water supply has the potential to result in impacts to ground water quality due to aquifer mixing and drawdown. 19.10.505.B.(1)(a)(ii) NMAC.
    - The significantly larger Waste Pile/Contaminated Soil Waste Cell has the potential to become a source of surface or subsurface release of acid or other toxic substances from the permit area. 19.10.505.B.(1)(a)(iii) NMAC.
- The proposed change could result in a significant increase in the amount of financial assurance. *See*, 19.10.505.B.(1)(b) NMAC.
    - While some reduction in financial assurance may be credited to RGR for tasks described in the CCP that are already complete, the increase in the amount of contaminated soil that needs to be removed and the expansion of the Waste Pile/Contaminated Soil Waste Cell will require additional

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information for the Director to determine whether any of the factors listed in 19.10.5.505 NMAC are present.

(3) The Director shall consult with the Department of Environment, the Department of Game and Fish, State Forestry, applicable state or federal land management agency, or the State Historic Preservation if factors listed in NMAC are present relevant to the agency's area of expertise.

financial assurance. The proposed schedule change to require a future five-year cleanup period, together with the significance of other changes in the revision, requires RGR to provide updated/revised financial assurances to ensure that, in the event RGR fails to perform the required CCP activities, the state agencies would be able to do so.

  - The existing CCP and financial assurance also does not include adequate consideration of post-closure costs related to monitoring or maintenance to ensure the features of the Waste Pile/Contaminated Soil Waste Cell continue to perform and be maintained in the long-term future.
  - The concrete shaft plugs presently proposed in the CCP are primarily intended to prevent future access to the mine for safety reasons and to affect permanent closure of the mine. The CCP assumes that aquifer protection related to the two deep and large shafts would be accomplished by relying on the shaft grouting performed in the late 1970's-early 1980's when the mine was first developed. Issues raised by the Office of State Engineer in its July 24, 2020 comments to MMD on Modification 20-1, call into question the adequacy of that approach and suggest that this matter requires significant additional consideration, including potentially highly significant changes to the nature and extent of the shaft plugs, such that a significant increase both in the complexity and cost of addressing this matter may result.

- The proposed change to a PMLU of water resources supply significantly departs from the nature or scale of the existing permit in that it will result in a permanent (perpetuity) versus temporal (life of mine) withdrawal of scarce and valued water resources with potential regional impacts. 19.10.505.B.(1)(c) NMAC.
- As evidenced by our comments and those of the various State agencies who have commented on the proposed permit application, the existing application does not provide or contain sufficient information for the Director to determine whether any of the factors listed in 19.10.5.505 NMAC are present. 19.10.505.B.(2) NMAC.

Additionally, the site is of great cultural significance to Native American tribal communities across the region. Additionally, there is a high level of public interest and concern related to the site's cultural and biological resources. For all these reasons, this site warrants a formal public comment and hearing process as contemplated by the Mining Act. Based on the proposed modifications to the permit and technical issues presented below, we request that you treat the application as a revision.

III. Technical Comments

In addition to the above legal comments, we offer the following technical comments.

A. Proposed Water Supply PMLU May Result in Perpetual Impacts.

The proposed change to the PMLU to include water supply transforms the duration of mining impacts from temporal (during operations and for a period following closure) to an indefinite long-term duration, with an increasing potential for permanent impacts. A panoply of issues with respect to beneficial use, intended end-users, impacts to water supply and water quality come into play, as noted by NMED and NM OSE in their comments.

There is an outstanding need for a comprehensive site-wide and regional groundwater investigation both with respect to the existing CCP and closure of the Mt. Taylor Mine as noted by NMED. However, the proposed modification points to an immediate need for such a study before this application can be accepted. In addition, RGR, MMD and NMED should address the issues raised by OSE with respect to the shaft plug and coordinate a detailed groundwater investigation.

B. CCP Schedule Modification

While there have been two discreet addenda added to the CCP (2015, 2017), the Mt. Taylor Mine CCP has not been revised since December 2013. The schedule contained in the CCP, identified as Figure 8-1 in the CCP, suggested that all tasks identified in the CCP can be accomplished in less than two years. The schedule in the 2020 modification request, identified as Figure 3 in the rationale provided for the modification, suggests that the same tasks identified in the CCP in 2013 will now require almost five years to complete. RGR states the reasons for this change in the reclamation schedule as:

- The 2020 modification request schedule adds one-year (January 2020 – January 2021) for regulatory approvals related to the proposed modification to the 2013 CCP schedule;
- The time for contaminated soil excavation and disposal in the 2020 modification request allows for more than two years[2] compared to 60 days for the same task in the 2013 CCP schedule;
- The time to remove the ore from the ore pad and reclaim the pad and runoff retention pond has been extended from January 2020 to September 2022 in the 2020 modification request compared to 45 days in the 2013 CCP schedule;

[2] Figure 3 shows the task duration as 573 days with a start date of 2/10/21 and finish date of 5/23/23 which is a duration of more than two years.

- The time to reclaim the waste pile has been extended by almost three years in the 2020 modification request while the 2013 CCP schedule suggested 62 days for the same task;
- As a final example, the tasks for revegetation consisting of conditioning, seeding, mulching and fencing have been extended to 142 days total in the 2020 modification request while the 2013 CCP schedule estimated 30 days for the same tasks.

In justifying the expanded schedule, RGR suggests it is primarily due to "anticipated work productivity and increased quantities of materials at the site under present conditions." According to RGR, the 2013 CCP schedule was based on 30 working days per month, working holidays and weekends, and simultaneous tasks and multi-task work crews while the 2020 schedule modification request is based on more typical working conditions. These assumptions stated by RGR are not identified in the 2013 CCP.

RGR's modification request is the result of gross underestimations in the 2013 CCP about material quantities, task duration, and overall scheduling. With respect to task duration and overall scheduling, RGR's assumptions about anticipated work productivity, particularly concerning the basis for financial assurance cost estimates, do not appear to consider the cost increases that will be incurred if MMD is required to hire a third-party contractor to perform the reclamation work. In that event, it is unlikely that a contractor could complete the work as described by RGR in its 2013 CCP schedule. A third-party contractor would likely require substantially more time at a greater cost.

MMD should be very clear about how reclamation schedules factor into financial assurance estimates. Assumptions used by the company are typically "best case" scenarios versus actual work performed on behalf of the state by a third-party contractor. MMD has not allowed the approach RGR used in its 2013 CCP reclamation schedule estimate in recent CCP and financial assurance revisions at other mine sites in New Mexico. MMD should require RGR to provide an updated financial assurance cost estimate to reflect proposed changes to the CCP. In doing so, MMD should instruct RGR about approaches acceptable for direct and indirect cost estimates as well as net present value calculations for long-term costs consistent with recent financial assurance cost estimates at other major mines in New Mexico.

C. Disposal Cell Expansion.

A major difference in the 2020 modification request is the expansion of the waste pile disposal cell. The waste pile disposal cell is described as follows in the 2013 CCP:

> RGR will construct a clay-lined waste cell within the south waste pile to isolate contaminated pond sediments removed from the MWTU and storm water ponds. The cell will be 1-1.5 acres in area with a capacity of approximately 15,000 CY, 8-12 feet deep, and lined with 1.0 ft. of compacted clay soil to provide additional protection for ground water. The capacity can be expanded to 30,000 CY, if necessary, by additional height to the cell. Once filled with the pond sediments, the cell will be covered with 2.0 ft. of compacted clay. This cover then becomes part of the waste cell cover, and the surface will be revegetated in accordance with the revegetation plan. This cover will have several functions – barrier to infiltration of water, protection from erosion, support of vegetation, and radon attenuation. The radon attenuation function is unique to covers of uranium- and radium-bearing materials, and governs the design thickness of the cover. The RADON code was used to model radon attenuation and shows that 2.0 feet of cover consisting of clay and sandy clay soils found on site would be sufficient to meet the radon flux standard of 20 pCi/m2s from the cover surface.

RGR now estimates the remaining contaminated materials around the site to be two and a half times more than originally estimated in 2013. The proposed 2020 modification indicates that RGR has already completed excavation of contaminated sediments and soils from the eight Mine Waste Treatment Unit ponds (ponds 1 through 8) which suggests that remaining contaminated soils are associated with the storm water ponds.

RGR and MMD should further explain the increase in contaminated materials resulting in the expansion of the disposal cell. MMD has suggested it is due to assumptions that the quantity of material in the stormwater sediment ponds is 7-8 feet versus the two feet previously estimated. If this is the case, MMD should consider other adjustments that were made where best-case circumstances may have been inappropriately assumed.

Further, the plan to use an engineered compacted clay cover for the disposal cell creates the potential for both radon exposure and water quality issues. The clay cover must continue to function over the long-term as intended and be monitored and maintained if the intended function is to be permanently assured. As noted by NMED in its

comments to MMD on the CCP, RGR needs to include a discussion of how waste settling will be addressed in the expanded Waste Pile/Contaminated Soil Waste Cell. The discussion should address how settling will likely impact the integrity of the clay cap and require ongoing long-term monitoring and maintenance. Similarly, any erosion of the clay cap, or infiltration from things like tree roots and burrowing animals, will likely impact the clay cap and should be addressed in terms of long-term monitoring and maintenance.

RGR must also address why it has not proposed using a synthetic liner beneath the Waste Pile/Contaminated Soil Waste Cell to protect groundwater. Because the compacted clay cover cannot realistically be expected to be 100% efficient in terms of preventing infiltration into the facility and groundwater beneath the site, consideration should be given to requiring the cell(s) to be lined. We note that geochemical characterization of the waste pile and stormwater sediment material is limited and should be provided when addressing this concern.

D. Ore Stockpile.

According to the 2103 CCP, the ore stockpile covered 6.8 acres and contained approximately 60,000 tons of low-grade ore. The 2013 CCP proposed that the ore stockpile, including the existing soil cover, would be excavated by loader and hauled by truck to the shafts, where the ore will be dumped as shaft backfill up to the sub collar level. RGR subsequently modified the CCP to allow for removal of the low-grade ore stockpile from the site. According to the 2020 modification request, approximately one-third of the low-grade ore stockpile has been removed from the site, and RGR estimates it will take between 1 and 1.5 years to complete the removal.

The low-grade ore stockpile removal appears to be a critical path element of the CCP, taking more than 2.5 additional years for completion despite RGR's suggestion of 1 to 1.5 years. Because ore stockpile removal depends on a potential buyer for the low-grade ore, removal of the ore stockpile in a timely manner is uncertain. A contingency plan should be required to provide for reclamation of the ore stockpile in the event the low-grade ore is not removed in a timely manner, including adjustments to the Financial Assurance. However, RGR's past proposal to use the stockpile material for shaft backfill should be rejected because of the potential impacts to groundwater and shaft plugging as noted by the OSE in its comments.

E. Shaft Plugging

According to the 2020 modification request, the updated CCP indicates that plugging the mine's shaft will take significantly longer than projected in the 2013 schedule because of the need for a specialized crew and equipment for entry into the shaft. The increase in task duration reflects safety considerations. RGR is considering an alternative to conventionally engineered shaft plugging. RGR is considering the use of permanent caps to be placed over the top of all shafts. RGR anticipates the caps will include structural steel and be designed to safeguard human health and minimize environmental impacts. By installing the caps, work crews will not have to enter the shafts. RGR suggests that caps will also provide safe access for groundwater sampling and measurement of water levels.

The shaft plug must be consistent with MMD's requirements for permanent closure of the site features. The proposed approach appears to be intended in such a manner as to allow the shafts for re-use in the future rather than for permanent closure.

Moreover, OSE's identification of issues with the shaft closure and the reliance on grouting performed in the 1970s and 1980s intended to prevent water intrusion during mining only, as a means of ensuring perpetual segregation of aquifers, and the need for monitoring for long-term assurance of this matter, are both extremely important. It appears that the previous understanding of what is required and intended by New Mexico water regulations with regards to the Mt. Taylor mine shafts is in serious question and could ultimately lead to a major revision to the CCP in terms of shaft plugging provisions to adequately and permanently address the matters raised by OSE.

F. Financial Assurance.

The present financial assurance amount of $7,167,753 for the Mt. Taylor mine is based on a 2013 cost estimate. The estimate has not been reviewed or revised since that time, other than to address the addition of a water treatment aspect that is no longer relevant.

The financial assurance estimate should have been reviewed in 2018 based on a five-year schedule with at least one cost inflation factor applied to the 2018 estimate. Given the significant increase in quantities of materials to be disposed of and the duration of the reclamation, and for reasons otherwise noted by our comments, MMD and NMED

should conduct a thorough review of the financial assurance estimate with respect to tasks, costs, and duration.

The agencies should also note a lack of long-term monitoring or maintenance in the financial assurance estimate despite a reliance on engineered features such as clay covers to protect water quality and from radiation exposure which require long-term monitoring. The CCP should include a section describing water quality, cover and revegetation monitoring that would be conducted post-reclamation to ensure the long-term effectiveness of the mitigation measures in the CCP. The duration of monitoring and maintenance period should be for a minimum period of 100-years, and MASE recommends a period of 500-years.

G. Discharge Permit

According to the 2020 modification request, NMED has informed RGR that approval of the disposal cell expansion plan will require a modification to its existing discharge permit, DP-61, under NMED regulations. The request notes that this could take nine months or longer, if there is a request for a public hearing. The updated CCP schedule accounts for this delay.

From a substantive technical standpoint, the issue of adequate financial assurance for long-term monitoring and maintenance, unless resolved by the regulatory agencies and RGR consistent with the recommendations herein, is a reasoned rationale for a public hearing on the discharge permit. In addition, given the concerns about groundwater quality, a public hearing is appropriate to consider those concerns and to recommend additional mitigation measures. While a discharge permit hearing might delay some aspects of mine closure, the issues that have been identified are significant, and any corresponding delay should be compared to the nearly twenty years that the Mine was on "standby" and additional delay that occurred when the Mine was re-designated as "active" when it was clearly not.

Sincerely,

/s/

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