

# RESPONSIVENESS SUMMARY FOR COLSTRIP UNITS 1&2 INTEGRATED REMEDY EVALUATION REPORT

## 1. INTRODUCTION

The Department of Environmental Quality (DEQ) solicited public comment on the Units 1&2 Integrated Remedy Evaluation Report (Report) for the Colstrip Steam Electric Station (Colstrip SES) during a public comment period that ran from September 21, 2020 to October 26, 2020. DEQ received written comments on the proposed remedies presented in the Report from 1,034 individuals and entities during the public comment period.

## 2. COMMUNITY INVOLVEMENT BACKGROUND

Cleanup of ground water contamination from coal ash disposal pond seepage at the Colstrip SES is regulated by the DEQ through an Administrative Order on Consent (AOC). Under the AOC, public participation is required via a 30-day comment period.

## 3. NOTIFICATION OF PUBLIC COMMENT PERIOD

Printed notices for the 30-day comment period were published in the Billings Gazette, the Miles City Star, and the Independent Press, as required by the AOC.

## 4. EXPLANATION OF RESPONSIVENESS SUMMARY

All comments received during the public comment period on the Report have been reviewed and considered by DEQ in the decision-making process and are addressed in this Responsiveness Summary. Due to the volume of comments and given that many of them are similar in nature and subject, DEQ has summarized the comments below. However, while the comments are summarized here for brevity, DEQ considered each comment submitted in its entirety. All original comments have been compiled and scanned and are available on DEQ's Colstrip website. This Responsiveness Summary will also be posted to the website. To assist in developing responses, DEQ added its own number to comments to add clarity; similar comments may be referenced to previous response(s).

## 5. ACRONYM LIST

For ease of understanding, DEQ is providing a list of acronyms used in the responsiveness summary:

AOC – Administrative Order on Consent

COC – Contaminant of Concern

COI – Constituent of Interest

CCR – Coal Combustion Residual

DEQ – Montana Department of Environmental Quality

DNRC – Montana Department of Natural Resources and Conservation

MEIC – Montana Environmental Information Center

MNA – Monitored Natural Attenuation  
MFSA – Montana Major Facility Siting Act  
MWQA- Montana Water Quality Act  
NPRC – Northern Plains Resource Council  
PRB – Permeable Reactive Barrier  
RER – Remedy Evaluation Report  
SOEP – Stage One Evaporation Pond  
STEP – Stage Two Evaporation Pond

## NORTHERN PLAINS RESOURCE COUNCIL, Cover Letter Comments

- 1. To be clear, Northern Plains heartily endorses Alternative 10 in the IRR as the only alternative that will meet the legal requirements of the AOC and address violations of the Montana Water Quality Act and Major Facilities Siting Act, as specified in the AOC.**

*DEQ Must Approve Alternative 10:*

*Alternative 10 will require full excavation of the 1&2 ponds for storage in a new, 91-acre, lined landfill sited above the water table. Northern Plains agrees with DEQ's determination in May 2020 that Alternative 10 is the only proposal that will satisfy the legal requirements of the AOC and guarantee a healthy future for the area.*

*Excavating coal ash ponds – also known as closure by removal – is quickly becoming the national standard for wet coal ash cleanup. Nationally, it has been documented that 90% of coal ash ponds have contaminated the groundwater beneath them. In the last five years, bipartisan legislatures in both North Carolina and Virginia passed laws requiring utilities to excavate all coal ash in contact with groundwater. Multi-million dollar excavation projects are also underway in South Carolina and Tennessee. Earlier this year, Duke Energy reached an agreement with state regulators and community groups to begin collecting \$8-9 billion to excavate 80 million tons of coal ash in the Carolinas. Utilities across the country are moving toward source removal as the standard remedy for coal ash sitting below the water table because it is, for obvious reasons, the only sure way to prevent long-term pollution.*

Response: DEQ has selected Alternative 10 (excavation of Stage I and Stage II Ponds) as the remedy that will be implemented for the Units 1&2 Ponds. Please see DEQ's Fact Sheet and Decision Document for additional information regarding DEQ's selection of Alternative 10 as the remedy.

- 2. Alternative 10 should be selected because it is the only alternative that will guarantee permanent separation between coal ash and groundwater.**

*Northern Plains is deeply skeptical of Talen's unsubstantiated claim in the IRR that, "Alternative 10 is predicted to provide no better performance compared to Alternatives 6A, 7C, and 11." This claim falsely assumes that, with a gravity drain, all coal ash under Alternatives 6A, 7C, and 11 will be kept out of contact from groundwater in perpetuity, among other things. Given the model projections that the water table will remain above the bottom of the SOEP and STEP ash indefinitely, the litany of problems associated with maintaining a gravity drain under Alternatives 6A and 7C, and the problems with maintaining separation between coal ash and the water table under Alternative 11 (detailed below), it is hard to see how a remedy that removes the source of pollution entirely (Alternative 10) will perform on the same metrics as remedies that leave a source of pollution in place.*

*On Page 120 of the IRR, Talen Energy concludes that Alternative 10 would stop the source of contamination entirely:*

*"Results from the mass discharge evaluation shown in Figures 5 and 6 of **Appendix I** indicate that in 2031, after closure by removal and reclamation of SOEP, STEP, and the SOEP and STEP Main Dams, there would no longer be a mass discharge of COIs to groundwater from the existing ponds/cells, and the new landfill would not be a significant source of future mass discharge to groundwater."*

*Northern Plains agrees with Talen Energy's conclusion above. Removing coal ash to a new, lined landfill sited above the water table will permanently eliminate contact between coal ash and groundwater. This is the single, most important step that the DEQ can take to achieve AOC cleanup goals for the area. Approving a remedy that does not guarantee permanent separation between coal ash and groundwater is unacceptable, as it will jeopardize ongoing plume remediation efforts at the site by introducing future contamination, thus continuing the historic degradation of water resources for the area. While there is an outside chance that Alternative 11 could prevent groundwater contact with coal ash for a time, that will not last. Alternative 10 is the only option included in the IRR that will guarantee permanent separation between coal ash and groundwater. By relocating SOEP and STEP coal ash to a new, lined landfill, Talen Energy will finally be able to store the waste correctly. All other cleanup alternatives in the IRR are attempts to "upgrade" an existing waste storage system that is clearly beyond repair.*

Response: DEQ believes that Alternative 10 is the only remedy that will permanently achieve cleanup criteria, as mandated in the AOC. Much of the plume re-emergence predicted by the groundwater model for Alternative 10 is from secondary sources (i.e., mass trapped in underlying sediments from historical pond seepage). However, full removal will allow the secondary sources to be removed, and additional freshwater flushing in the SOEP footprint may also improve remedy performance. Therefore, DEQ expects Alternative 10 to be more effective in addressing groundwater contamination than Alternatives 6A, 7C, and 11. For additional details on DEQ's selection, please refer to DEQ's Fact Sheet and Decision Document.

**3. Financial Assurance for Alternative 10 should be increased to a minimum of \$600 million.**

The proposed bonding for Alternative 10 of \$191 million in the IRR is extremely low and should be raised to a minimum of \$600 million to protect Montana taxpayers from shouldering the costs of future cleanup. Northern Plains is suggesting a minimum of \$600 million based on a detailed 2019 cost estimate provided by KirK as well as industry estimates from recent, largescale coal ash removal projects.

EPA's *Interim Measures Cost Compendium* published in 2003 provides a formula for estimating the costs of restoration projects. Costs were developed from the Remedial Action Cost Engineering and Requirements (RACER) cost estimating software; and based on the 2003 Environmental Cost Handling Options and Solutions (ECHOS) cost database. ECHOS is a joint venture between Talisman Partners, Ltd., experts in environmental restoration cost estimating and technology application, and the R.S. Means Company, Inc., the leading publisher of construction cost information in North America. R.S. Using EPA's *Interim Measures Cost Compendium*, industry research, and consultations with contractors familiar with waste excavation, KirK calculated that **capital costs alone** for excavating all coal ash at the Units 1&2 ponds, **will total \$401 million**. KirK's cost calculations and references are attached to our comments. This estimate includes surveying and designing an excavation plan, backfilling and reclaiming the SOEP/STEP footprint, designing and constructing a new landfill, and related project startup and health & safety costs. KirK's estimate does not include costs related to excavating, transporting, and storing the 2.7 million cubic yards of SOEP/STEP dam material which is also proposed in Alternative 10 and will greatly increase the financial assurance DEQ should require when approving Alternative 10. KirK Engineering also estimated the annual post-closure operation & maintenance (O&M) costs for the new landfill at approximately \$1 million per

year. Northern Plains encourages DEQ to obtain these funds as a cumulative amount in DEQ's request for bonding.

Furthermore, DEQ should collect O&M costs in bonding for Alternative 10 for as long a period as DEQ has regulatory authority to collect, considering that the maintenance on the newly built landfill will run into perpetuity.

Along with Kirk's estimate, Northern Plains encourages DEQ to use real-world examples of coal ash excavation projects when determining financial assurance for Alternative 10. For example, Duke Energy recently agreed with North Carolina DEQ on \$8-9 billion as an appropriate estimate for excavating 80-90 million tons of coal ash in North and South Carolina.

In another recent example, Tennessee Valley Authority agreed in June 2019 to \$640 million as the appropriate cost to excavate and store 12 million tons of coal ash at the Gallatin Fossil Plant. Using the average cost of these two estimates (\$76 per ton), it would cost roughly **\$925 million** to excavate, transport, and store the 12.2 million tons of coal ash and dam materials proposed in Alternative 10 (assuming 8.7 million cubic yards of SOEP/STEP ash and dam materials = 12.2 million tons).

Northern Plains believes a **minimum of \$600 million** is an appropriate benchmark for DEQ to require in financial assurance for Alternative 10. Compared to the billions of dollars in revenue that the community of Colstrip has generated for the owners of Colstrip Units 1&2 through the decades, this amount is extremely reasonable. For context, Talen Energy paid a special, one-time, cash dividend of \$500 million to the company's shareholders in 2017 alone.

Response: Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

#### **4. DEQ should reject Alternatives 6A, 7C, and 11**

*These comments, and the attached review by Kirk, lay out myriad deficiencies in Talen Energy's Preferred Alternative (Alternative 11), as well as deficiencies in Alternative 7C and 6A. We again encourage DEQ to thoroughly examine and consider Kirk's findings. In the next several pages, we would like to explore a few key deficiencies of particular note.*

##### *a. Deficiencies in Alternative 11*

***Consolidating deeper coal ash at the STEP and SOEP on top of the existing, shallower coal will not guarantee long-term separation between groundwater and coal ash.***

*Alternative 11 proposes removing portions of STEP and SOEP coal ash that are below the water table and within the valley of the impoundment, and store that coal ash within the existing footprint of the 1&2 ponds in areas above the projected water table that are on the walls of the valley. Northern Plains sees some clear, conceptual deficiencies regarding Alternative 11 that are not adequately addressed in the IRR, including:*

- How can Talen Energy guarantee that coal ash relocated to dryer sections in the SOEP/STEP footprint will remain above the water table permanently? Specifically, how will the consolidated ash up on the sides of the valley not erode back into the valley through gravity, storm water runoff, and precipitation events?*
- How confident can DEQ be that Talen Energy's projections of the water table are conclusive and that Alternative 11 will permanently remove all coal ash below the water table?*
- Has this remediation strategy (partial removal and consolidation of coal ash) been successfully demonstrated at other coal ash sites before? Is this a tried-and-true approach to preventing contact between coal ash and groundwater?*

*In addition to the broad, conceptual questions above, there are a few specific flaws that we raise in Talen Energy's analysis of the Preferred Alternative.*

*The Preferred Alternative proposes to store coal ash from STEP A cell in the SOEP footprint, which is unlined, thus increasing the total volume of unlined coal ash at the site and increasing the risk of contaminants leaching down into the bedrock aquifer long-term.*

*The Preferred Alternative proposes to consolidate 4.8 million cubic yards of ash (1.1 million from SOEP, 3.7 million from STEP cells) within the existing footprint of the Units 1&2 ponds, presumably on top of existing ash. Again, Northern Plains sees some clear, conceptual deficiencies to this plan. How will piling roughly two-thirds of SOEP/STEP coal ash on top of the remaining one-third impact the collective weight pushing on bottom liners in the STEP and the unlined bottom of the SOEP? How will mounding the coal ash into piles impact the structural integrity of the caps that are proposed to cover the tops of the consolidated ash? Is it really feasible to pile millions of tons of coal ash into a much smaller footprint and not have slope stability and erosion issues in the future?*

*Talen Energy does not provide examples from other coal ash sites around the country in the IRR to suggest Alternative 11 is a safe, reliable, and effective strategy to keep coal ash "high and dry" above the water table. Contrarily, Alternative 10 proposes to excavate all coal ash for storage in a new, lined landfill sited above the water table. This approach has been demonstrated at sites across the country as an effective way to stop long-term contamination for coal ash sites below the water table. Anything less than full removal will create problems during reclamation and backfilling, require perpetual monitoring to ensure coal ash does not erode below the water table, and relies on the assumption the water table remains, **forever**, beneath the projected highest elevation in the models.*

*DEQ is tasked with selecting a remedy that will meet cleanup goals in the AOC and is under no obligation to select a particular cleanup strategy solely because Talen Energy has identified it as the company's "preferred" alternative. We see no reason that DEQ should move forward with the risky, unproven strategy for source control outlined in Alternative 11, when there is a*

*perfectly sound, reliable strategy to accomplish AOC cleanup goals included in the report in Alternative 10.*

Response: DEQ has not selected Alternative 11 for several reasons, one of which is the uncertainty of the high water level projections into the future, which did not account for cessation of upgradient Rosebud Mine dewatering in 2031. This creates concerns regarding the permanence of the ash/groundwater separation.

Regarding erosion, Talen provided calculations on slope stability through a geotechnical evaluation to confirm the site would be structurally sound and stable, including dewatering of ash during excavation. Ash along the sides of the valley would be capped with geosynthetic final cover systems, and the surface would be graded to be relatively flat with stormwater controls. Regarding implementation of this strategy at other sites, consolidation of CCR materials is a common approach with CCR impoundments.

However, DEQ's reservations with the alternative lie primarily with the permanence of the ash/groundwater separation; as such, DEQ has not selected Alternative 11 as the final remedy.

*b. Deficiencies in Alternatives 6A and 7C*

*Alternatives 6A and 7C in the IRR are deficient for many reasons, the most obvious of which is that these Alternatives both leave a source of contamination in contact with groundwater, contrary to DEQ policy and the goals of the AOC. Three major issues with these proposals are explained on the following pages and listed below:*

- it is not feasible to maintain the gravity drain;*
- pond liners will not act as a permanent barrier between groundwater and coal ash; and*
- long-term leaching from STEP is not accurately characterized.*

Response: DEA agrees with the deficiencies cited in this comment; these were among the reasons DEQ did not select Alternative 6A or 7C.

**5. A gravity drain will not eliminate contact between groundwater and coal ash.**

*Alternatives 6A and 7C propose to eliminate contact between groundwater and SOEP/STEP coal ash by installing a gravity drain to artificially lower the water table surrounding the Units 1&2 ponds impoundment. As DEQ noted on May 21, 2020, in comments to Talen Energy, a gravity drain will be problematic for the following reasons, which Northern Plains agrees with and are summarized below:*

- The cost of maintaining a gravity drain will be expensive, and required in perpetuity.*
- Background groundwater chemistry is highly mineralized and is expected to create scaling issues that will require routine maintenance on the gravity drain pipes into perpetuity.*
- Water rights will be impacted by lowering the water table elevation.*
- The ability of a gravity drain to maintain water levels below the STEP during a highwater year, or other unexpected precipitation event, has not been considered.*

*DEQ cannot approve Alternatives that rely on a gravity drain, considering the strong risk that a gravity drain will malfunction at some point in the future and result in contact between groundwater and coal ash.*

Response: To clarify, Alternative 6A does not incorporate a gravity drain to prevent future contact between groundwater and the bottom of the ponds. However, DEQ agrees that long-term

maintenance of a gravity drain is problematic and creates risk for Alternative 7C; this was the primary reason DEQ did not select Alternative 7C.

**6. Pond liners will not act as a permanent barrier between groundwater and coal ash.**

*We know that the liners beneath STEP have been leaking for decades and will not act as a permanent barrier between groundwater and coal ash. Even if the ponds are completely dewatered and all STEP coal ash is temporarily dried out, that situation won't last. When the gravity drain proposed in Alternative 6A and 7C eventually fails, the water table at the Units 1&2 ponds will re-levate above the bottom of SOEP/STEP coal ash. Clean groundwater will well up through pathways in the liners, that groundwater will mix with coal ash, become contaminated, and finally leak back out and carry contamination into the aquifer. In addition to the short-term leakage pathways described above, the STEP liners will eventually breakdown altogether and result in large-scale groundwater contact with coal ash.*

*Talen Energy estimates the high-density polyethylene (HDPE) liners are rated for 400 years in unexposed conditions and 36 years in exposed conditions. No matter how long it takes, when the liners eventually fail there will be a large mass of coal ash freshly exposed to groundwater, thus compromising ever achieving AOC cleanup goals. In comments to Talen Energy dated April 22, 2019, DEQ requested Talen Energy account for horizontal groundwater flows into coal ash when modeling seepage from the Units 1&2 ponds. Talen Energy's response in a return correspondence to DEQ, that "...the presence of the liners in the STEP ponds should eliminate saturated advective flow through the ash," is inadequate. A plastic liner simply will not permanently eliminate groundwater contact with coal ash. When the liners eventually fail, as Talen Energy admitted they will, groundwater contact with coal ash will be significant and result in a continual, long-term source of contamination.*

*Talen Energy's failure to accurately account for horizontal groundwater flows in the modeling means DEQ cannot truly evaluate how capping SOEP and STEP coal ash in place will impact long-term AOC cleanup goals. We reiterate that horizontal flows into the STEP ponds is underestimated in the IRR and this prevents DEQ from evaluating the negative impacts of leaving coal ash in place.*

Response: DEQ agrees that the ash in STEP would be a significant source of contamination should the liners fail in the future. Talen has documented the liners will last 400 to 1,000 years, which indicates the liners will fail at some point. Liner failure would cause the ash in the STEP to be in direct contact with groundwater, which would act as an ongoing source of contamination. This is one of the reasons DEQ selected Alternative 10 as the remedy for the SOEP/STEP ponds. is one of the reasons DEQ selected Alternative 10 as the remedy for the SOEP/STEP ponds.

**7. Long-term leaching of contaminants from STEP ash is not accurately characterized.**

*Long-term leaching of contaminants from SOEP/STEP coal ash is not accurately characterized in the report. This makes it impossible for DEQ to evaluate how capping these ponds in place will impact cleanup goals. [Please see Kirk's attached comments (especially comments 1 and 3) for more explanation on this point.] To summarize, Talen Energy's models rely on unsubstantiated values to describe hydraulic conductivity of the coal ash and to estimate the cross-sectional areas of the waste, and, as a consequence, long-term leaching from capped SOEP/STEP coal ash is severely underestimated.*

*The deficiencies listed above are by no means the only shortcomings in Alternatives 6A, 7C, and 11. However, these deficiencies all point to Alternatives 6A, 7C, and 11 as being unable to achieve AOC cleanup goals in a reasonable timeframe for the 1&2 ponds. We reiterate that DEQ must approve Alternative 10 as the only permanent plan which has been provided in the IRR that will guarantee the long-term health of the region.*

Response: DEQ agrees the Darcy equation likely underestimates the quantity of COIs that would leach from the STEP and migrate downgradient in the event of STEP failure. The Darcy equation oversimplifies the processes in the STEP area and does not account for upward flow into the ash, which would lead to additional saturation. Additionally, leaching results from the ISS Treatability Study indicate the ash is a source of contamination to groundwater, and that source control is needed to mitigate this source.

Talen provided additional information regarding the values used for hydraulic conductivity and cross-sectional area; please refer to the response to Kirk Engineering's comment regarding the seepage calculation below.

#### **8. Violations of the Federal Coal Combustion Residuals Rule**

*As written, Alternatives 6A, 7C, and 11 in the IRR are expected to not meet key standards contained in the 2015 Coal Combustion Residuals (CCR) Rule, and DEQ must consider this to ensure that the AOC remedy is executed and that water and its uses are protected. Specifically, the CCR rule requires that free liquids be fully drained from ponds prior to capping (40 CFR § 257.60, 2015) and that the base of existing CCR impoundments be 5 feet above the upper limit of the uppermost aquifer (40 CFR § 257.60, 2015).*

*Groundwater elevations at the Units 1&2 site are above the bottom of SOEP and STEP, and therefore DEQ approval of a cap-in-place remedy that will likely result in coal ash being in contact with groundwater (under Alternatives 6A and 7C), or a remedy with a high risk of coal ash eroding back below groundwater levels (Alternative 11), would mean that the agency policy does not comply with both of these key federal standards. DEQ should also consider how Alternative 11 will affect compliance with the CCR Rule, in light of the potential for coal ash to be moved from ponds currently under the jurisdiction of the CCR Rule (STEP Cells D, E and Old Clearwell), into ponds which are exempt from the rule (SOEP, STEP Cell A). Anything short of source removal at these ponds provides uncertainty, risk, and delays addressing the problem until a time when owners no longer exist or have cut all formal ties to the Colstrip power plants.*

*We respect that DEQ staff want to approve a permanent remedy that meets federal and state standards and do not want this remediation plan to end up in the courts. Northern Plains agrees and urges the DEQ to carefully evaluate how this IRR complies with the CCR rule.*

Response: To clarify, Talen is proposing to move ash from A Cell (STEP) into the SOEP, and from E Cell and the Old Clearwell into D Cell and other areas within E Cell and the Old Clearwell. In other words, ash would not be moved from cells regulated by CCR Rule to cells not regulated by CCR Rule. However, DEQ has concerns regarding Alternative 11's compliance with the CCR Rule; communications with EPA indicated that moving any ash into a currently unregulated cell would trigger CCR Rule regulations for that cell. This means that moving ash from A Cell into the SOEP may not be feasible under the CCR Rule. Please see Section 6 of the Decision Document.

## **9. Impacts of Sulfates on Agriculture**

*Agricultural operations in the Armells Creek watershed have suffered the effects of coal ash pond leakages that have introduced high sulfate and Total Dissolved Solids (TDS) concentrations into the aquifer and of the excessive pumping of uncontaminated groundwater in order to limit the spread of the contamination plume. High sulfate levels in the coal ash ponds must be controlled to safeguard water quality for downstream livestock producers. Sulfate concentrations in the SOEP/STEP average between 20,000-50,000 ppm [parts per million], with a maximum value of 155,000 ppm according to the latest Cleanup Criteria and Risk Assessment report for the site. This is more than concerning to livestock producers in the area, as concentrations of sulfates over 3,000 ppm negatively impact conception rates, result in decreased weight gain and polioencephalomalacia or “brain softening,” and lead to death in cattle. In an attached 2009 field study produced by the Fort Keogh Agriculture Research Center in Miles City, 47% of cattle exposed to water with sulfate levels between 2,900 ppm and 4,600 ppm had symptoms of polio and 33% died. The Units 1&2 ponds are leaking 31,000 gallons each day of water containing 50,000 ppm!*

*Livestock producers do not just rely on clean water; they exist solely because useable water is available. Northern Plains underscores the need for a plan that permanently controls leakages from the coal ash ponds and prevents migration of sulfates into the aquifer. There is anecdotal evidence from landowners downstream from the Units 1&2 ponds on Armells Creek that water quality has been in a steady state of decline for 40 years. Ranchers have leveled fields in preparation for flood irrigation but then abandoned using that irrigation strategy on those fields because of poor water quality in Armells Creek and its negative impacts on soil health and crop production, notably from high sulfates. Landowners have also observed steep declines in aquatic life (large fish, turtles, frogs, and other life forms) during the last 40 years in Armells Creek. It is extremely difficult to prove that declines in both water quality and aquatic life in the watershed are a direct result of Colstrip’s coal ash ponds leaking, but we note both of these observations to make DEQ aware of on-the-ground, long-term observations from residents in the area.*

*We also note that while sulfates, like boron, are used as an indicator pollutant in Talen Energy’s submission, the list of contaminants ultimately contained in coal ash – lithium, manganese, cobalt, selenium, radium, and more – is long and many of these contaminants pose meaningful threats to water and its uses in southeastern Montana.*

Response: DEQ agrees that high sulfate levels must be prevented from entering the aquifer, and existing high levels from historic seepage must be mitigated. Cleanup criteria for sulfate, as designated in the Cleanup Criteria and Risk Assessment Report, is either the background concentration for the individual aquifer, or a risk-based level of 3,000 ppm. This risk-based level was based on consumption by calves and accounts for health-related issues that may occur from ingesting high levels of sulfate.

The risk assessment did not identify adverse effects to Armells Creek as a result of pond leakage; however, DEQ is aware that the water quality in the creek can be highly variable due to a variety of impacts and low flow conditions in certain reaches of the creek. Talen continues to monitor Armells Creek on an annual basis to document any impacts or changes in creek water quality.

## KirK Engineering Comments

### 10. The technical analysis used to demonstrate that ash capped in-place in contact with groundwater will not lead to significant contamination is flawed.

Talen evaluates the impacts of coal ash left in place in contact with groundwater at the Stage One Evaporation Pond (SOEP) using groundwater modeling and Stage Two Evaporation Pond (STEP) using mass discharge calculations based on Darcy's law. In each of these cases the analysis suffers from not considering site specific hydraulic conductivity (K) of the coal ash. It is unclear why mass discharge calculations based on Darcy's law were used when the model is available and would provide a more accurate estimate for the STEP. Additionally, the source concentrations used in the modeling should be clearly supported. We will discuss each of these further below.

#### a. STEP Mass Discharge Calculations

*The STEP mass discharge calculations are presented in Section 5 of the NewFields Modeling Report and evaluate the potential impact of contaminants should the STEP liner fail under a cap-in-place solution for the impoundments. Talen, DEQ, and KirK Engineering have provided evidence in past documents and comment that the single layer HDPE liner should be expected to deteriorate after a period of approximately 100 to 400 years, with the STEP liner now 30 years old. The mass discharge analysis as presented indicates that the contribution to groundwater contamination downgradient of the STEP main dam will be less than 1% of the total. NewFields (2020) suggests this means that if leaving the STEP cells capped in place that the eventual deterioration of the liner and leaching of coal ash by groundwater should not be considered a source for remedy evaluation purposes. The analysis is deficient because it uses a value for hydraulic conductivity and cross-sectional area that is unsubstantiated. It is also deficient because it assumes that a comparison with the transect downgradient of the main dam explains whether contaminant concentrations will meet water quality protection standards.*

*We attempted to track down the source of the coal ash K value used in the mass discharge calculations but never found a source actually identified. NewFields references the K value 0.075 ft/d used in the Darcy's Law calculations to Geosyntec (2020b). Table 9 of the Source Investigation and ISS Treatability Study Report (Geosyntec 2020b) indicates that this K value is referenced to "Groundwater Modeling Report (NewFields, 2017)" and that it is a field measured hydraulic conductivity. However, NewFields (2017) doesn't provide a field measured K value for the fly ash either. The aquifer test results and K data included in the 2017 modeling (Appendix A of NewFields 2017) shows that data was available for the natural geologic units, but the fly ash was never tested. It appears that the K value used was originally an assumed value which was used in the original modeling and never substantiated. The analysis would greatly benefit from site specific insitu testing of the fly ash.*

*In our search for the source of the fly ash K value we found that the site specific K of ash in A Cell is reported in Section 5.1 of Appendix B of the Integrated Report Addendum (Geosyntec 2020c) Values are reported to be  $1.2 \times 10^{-3}$  cm/s to  $4.1 \times 10^{-4}$  cm/s. Appendix B doesn't say how these values were measured but they are 15 to 45 times greater than the values used in NewField's Section 5 mass discharge calculations which were used to determine the failed liner would constitute an insignificant source.*

*Fly ash values K has not been widely reported in the literature for comparison, but these values are consistent with values reported by Bachus et al. (2019) whom report fly ash K values ranging*

*three orders of magnitude ( $4 \times 10^{-7}$  to  $4 \times 10^{-4}$  cm/s) and their lab tested values were all near the high end of that range. For comparison, if we use the  $4.1 \times 10^{-4}$  cm/s value which Geosyntec reports for the A Cell it changes NewFields mass discharge total to 18% of the contaminant flux, hardly insignificant. NewFields also does not tell how they calculate the cross-sectional area of 2,138 ft<sup>2</sup> for the saturated ash which is used in their Darcy's Law calculations. Our rough estimate of the cross-sectional area is 6000 ft<sup>2</sup> for the saturated fly ash in the A Cells and Old Clearwell near the main dam. We base this estimate of the cross-sectional area of two triangles with the width and depth of the STEP shown in the History of Construction Report (Geosyntec 2016) at the depth of saturation (elevation of 3220') shown in NewFields (2020) Figure 3-35. The cross-sectional area should be accurately known for this analysis and the methods used to calculate it should be clearly stated.*

*Regardless, the most accurate way to perform this mass discharge analysis would be to model it and not rely on calculations using Darcy's Law. The model would provide a mass discharge quantity that considers the three dimensional flow into and out of the ash and the sloping water table which causes the saturation to be much greater near the SOEP main dam than it is near the STEP main dam (See NewFields (2020) Figure 3-35). The model is available, why not do this? The saturated fly ash in the STEP should be included in the model as a specified concentration boundary, with the saturated thickness calculated by the model; this is how NewFields simulated the saturated fly ash in the SOEP after all.*

*The model will also help to resolve the actual predicted contaminant concentrations in the most impacted region of the aquifer versus the analysis NewFields presents which compares the contaminant mass discharge from the failed liner to the total mass flux across an arbitrary transect east of the STEP main dam. It is the actual concentrations that matter and whether water quality protection standards are met. We expect the model would show that the contaminant plume from liner failure will be concentrated in the alluvium downgradient of the STEP main dam, as is the current case for the contaminant plume. A modeled analysis would provide much better information for assessing remedy performance and attainment of cleanup criteria.*

Response: Per DEQ request, Talen provided additional information regarding the use of the K value of 0.075 ft/day in the Darcy equation. The calibrated hydraulic conductivity value for Stage I fly ash is between available values measured at the site. An October 2019 sample of fly ash from SOEP was analyzed by ASTM D5084 Method D yielding a value of  $1.1 \text{ E-}06$  cm/sec (0.003 ft/day). Hydraulic conductivity of ash samples from A Cell were between  $1.2 \text{ E-}03$  cm/sec (3.4 ft/day) to  $4.1 \text{ E-}04$  cm/sec (1.16 ft/day). Talen indicated the values from A Cell may be biased high because the tests were of short duration and the wells included a sand pack. The value of 0.075 ft/day is within the range of test values.

Talen also provided information regarding the cross-sectional area; Talen used groundwater elevation values from year 2070 (after capture system shutdown and groundwater equilibration). The 3D interpolation software Leapfrog was used to calculate the cross-sectional area.

Talen also noted that the model was not used to calculate potential mass discharge from liner failure because the model did not explicitly model the fly ash in the STEP, because the STEP cells are lined. The model assumed the liner was impermeable and was simulated as a no-flow boundary in Layer 1 that creates confined conditions that are present in the alluvium in Layer 2 beneath A Cell and E Cell.

**b. SOEP modeled impact of fly ash in contact with groundwater**

*We discussed above that NewFields (2020) simulates the saturated coal ash in the SOEP as a specified concentration boundary, with the saturated thickness calculated by the model. This is an appropriate way to model the impacts of saturated coal ash. The problem is however that NewFields uses the same value for K that is used in the STEP mass discharge calculations. The original groundwater modeling report (NewFields 2017) doesn't even say how the K value of 0.075 ft/d was determined. It appears it is a guess that happens to work in the calibrated base model. But the model calibration is not able to provide sufficient constraint to determine coal ash K via calibration because of a lack of wells completed in the ash and because other model parameters affect model calibration much more significantly than the ash K value.*

*During 2019, Talen had boring equipment in the SOEP for work performed for the Source Investigation and ISS Treatability Study Report (Geosyntec 2020b). Wells or piezometers could have been installed and tested, giving a reliable method to test in situ K. Geosyntec also recently collected fly ash samples from STEP A Cell and E Cell for the slope stability analysis in Appendix B of the Integrated Report Addendum (Geosyntec 2020c). Site specific K of the STEP cells could have been tested during that work.*

Response: Please refer to the previous comment response regarding the derivation of the K value for fly ash.

**c. Leachate source concentration needs to be substantiated**

*We discuss above that accurate estimates of coal ash hydraulic conductivity are needed to evaluate the long-term impacts if coal ash were to be capped in-place in either the SOEP or STEP in contact with groundwater. It is equally important that accurate estimates of leachate concentration be used in this analysis as well.*

*Table 1 summarizes the leachate source concentration used in NewFields groundwater model. The source concentrations used were adjusted to the value that best represented the observed boron and sulfate plumes during model calibration. The variability in the source concentrations used within a single pond or cell does not give confidence that the model is accurately parameterized. For instance, why does A Cell require a strip with a concentration of 100 mg/L boron when the remainder is 18 mg/L? Why do concentrations in E Cell range from 4 to 65 mg/L? Why is the source concentration assigned to the Old Clearwell liner tear area the lowest concentrations assigned for the CCR containing impoundments? Are there plausible explanations for the variability in source concentration? Or are the calibrated source concentration values making up for a deficiency in other model parameters such as leakage rates (recharge), adsorption characteristics, or hydraulic conductivity? These unsupported source concentration values are used by Talen to predict the long term impact of leaving coal ash capped in place. The values used should be substantiated.*

Response: Talen has documented ranges in source concentrations from within single impoundments that vary between sampling events. Variability can occur due to factors including length of time traveling through ash (residence time) and variable reactivity in ash, as well as changes in water management in ponds over the years. The model sensitivity analysis indicated the model is not overly sensitive to changes in source concentrations. However, DEQ and Talen

will work to refine the model as needed during the remedial design phase; a model update will not be performed for the purpose of the Remedy Evaluation.

**Recommendation**

*It is critical for the analysis of the long-term impacts of saturated coal ash to be accurately estimated for any proposal that leaves coal ash capped in place where it is in contact with groundwater, such as Alternative 6A in the Integrated RER. Talen has had substantial time to collect the necessary data and perform the modeling to show the long-term impacts of leaving coal ash in the SOEP and STEP in contact with groundwater. The existing modeling and mass discharge analysis is insufficient to accurately evaluate the long-term impact of saturated coal ash. We recommend that the DEQ chose a remedy which eliminates potential for coal ash contact with groundwater, because that is the only option that the available information demonstrates will ensure that the saturated ash does not create a long-term source to groundwater and result in exceedance of water quality protection standards.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. DEQ believes this is the only remedy that will achieve cleanup criteria permanently for the Units 1&2 area.

**11. There should be a selection criterion for “long-term effectiveness and permanence.”**

*The detailed evaluation factors which Talen uses are remedy performance, reliability, ease of implementation, potential impacts, time to start/complete, estimated cost and cost effectiveness, permits and approvals, and community concerns. Talen’s reliability analysis is a simple qualitative statement on the Operation & Maintenance and other considerations that effect the reliability of the alternative remedial components. What is missing is a quantitative comparison of the long-term effectiveness and permanence of the remedy components. U.S. federal environmental remediation law, CERCLA, requires long-term effectiveness and permanence to be compared in remedy selection and it should be included in Detailed Analysis of Remedial Action Alternatives presented in the Integrated RER.*

*Section VI(C)(2)(c) of the AOC (DEQ and PPL Montana 2012) requires the remedy evaluation report to assess the “Pros and cons of each remedial alternative and a summary of how each alternative satisfies the Cleanup Criteria defined in Article IV G.” The long-term effectiveness and permanence of the remedy is an important part of the pros and cons of each remedial alternative and should be compared.*

*If the long-term effectiveness and permanence were compared it would show that alternatives which remove the coal ash source to a new federally compliant landfill would score the highest for longterm effectiveness and permanence. The federally compliant landfill protects water resources from the coal ash by using a double lined containment system with leachate collection. The leachate collection system provides a method to intercept and dispose of leachate and to measure the condition and infiltration of the cover system/cap. A landfill would be constructed such that the coal ash has a minimum 5-foot separation from the highest groundwater levels. Additionally, if some unforeseen climate event causes groundwater to contact the landfill liner, the double liner and leachate collection provides the most effective and permanent method to prevent the groundwater from resaturating the coal ash and causing enhanced leaching.*

Response: DEQ agrees that the ability of an alternative to permanently achieve the cleanup criteria should be considered in selecting the remedial alternative. The AOC requires the selected remedial alternative to achieve the cleanup criteria; if the cleanup criteria are exceeded at any point in the future (i.e., from plume re-emergence), that would constitute a violation of the AOC. Hence, the ability of the proposed remedial alternatives to achieve the cleanup criteria in the long-term is a factor that DEQ considered when selecting Alternative 10.

**12. Groundwater model calibration should make use of all available data in setting calibration targets.**

*Geosyntec provides boron and sulfate mass discharge calculations for existing conditions in Appendix F of the Integrated RER. These mass discharge calculations should be compared to modeled values. Table 4-1 of the modeling report (NewFields 2020) shows they use the model to calculate mass discharge across these transects in years 2055 and 2150. It is a standard practice to compare independent estimates to modeled values during model calibration. It is especially important that calibration make use of independently estimated flux targets because flux targets are not limited by non-unique solutions when using only head targets (Anderson et al. 2015). The available mass discharge estimates provide a flux target that should be used for this.*

Response: Per conversations with Talen, DEQ and Talen have agreed that the model should be used for qualitative, comparative purposes, as a rigorous quantitative calibration has not been performed. However, DEQ and Talen have agreed to a series of meetings to discuss and refine the model for the remedial design, in order to allow the model to be used for aspects of the remedial design such as capture/injection system optimization. The model will not be updated for the purposes of the remedy report, but will be updated during remedial design.

**13. Plans for long-term water treatment and O&M for the gravity drain should be included in Alternative 7C.**

*Alternative 7C presents a cap-in-place option for the STEP cells where a gravity drain would be used keep the water table depressed a minimum of 5 ft below the STEP liners. The Integrated RER appears to indicate that intercepted groundwater would be treated at the plant site Groundwater Capture Treatment System or reused in plant operations prior to plant closure. The drain will be required to operate in perpetuity, however. Even after the end of active flush, pump, and treat operations in 2050 the drain will continue to collect groundwater with elevated contaminant levels because the active groundwater remedy is not expected to meet cleanup criteria under the pond footprint. Talen has also identified that the gravity drain will require routine maintenance given the scaling issues present in the existing capture wells at the site. Scaling will reduce the efficiency of the gravity drain, will require routine pigging or jetting of the drain pipe, and may require periodic replacement of the drain. Alternative 7C should provide an appropriate plan for perpetual water treatment and maintenance or it should not be selected.*

Response: Talen has indicated that it is prepared to include a long-term O&M plan as part of the Remedial Design, and that treatment should not be needed because groundwater captured by the gravity drain would not exceed cleanup criteria. However, DEQ has not selected Alternative 7C due to concerns over long-term maintenance and, therefore, an O&M plan for a gravity drain will not be required in the Remedial Design.

**14. The Detailed Analysis of Remedial Action Alternatives should compare the alternatives to each other.**

*The point of the alternative analysis should be to compare the alternatives to one another such that the preferred alternative is able to be identified and supported with evidence. Talen does not in all instances lay out the selection criteria and compare the Alternatives to each other in the Detailed Analysis of Remedial Action Alternatives in Section 7 of the Integrated RER.*

*Section 7.3.1 states, "Alternative 10 would eventually provide a higher level of source control than currently exists because Alternative 10 includes closure by removal of the SOEP and STEP in addition to dewatering the ash in STEP A Cell, E Cell, and Old Clearwell, and installing new capture wells and a freshwater flushing system in near-source areas." 7.3.1.3 states, "The closure by removal components of Alternative 10 (along with the capture system upgrades downgradient of the SOEP and STEP) would increase source controls within the CSES property boundary compared to existing conditions" (underline added for emphasis). The detailed analysis is thereby comparing the Alternative 10 source control to existing conditions and not the other alternatives. Alternative 10 provides a higher level of source control than all of the other alternatives because it would remove the source to a landfill where the coal ash can be better monitored and which provides a much higher level of leachate control than capping the coal ash in-place. See comment 2 for further discussion of expected remedy permanence. The Detailed Analysis of Remedial Action Alternatives should account for this in the remedy selection.*

Response: Talen compared the alternatives in Section 8 of the Integrated Remedy Report, as well as additional comparison made in the modeling report (Appendix D). DEQ does not concur with the selection of some of the metrics used to evaluate and identify a preferred alternative in the report; please see DEQ's Decision Document for additional details on the use of these metrics.

**15. The alternative descriptions should indicate why STEP B Cell is not considered for ash disposal.**

*The B Cell, which is the current clearwell at the STEP, is constructed with double lined RFP and a leachate collection system. This would be relatively easy to convert to a landfill system. None of the existing alternatives, including Alternative 11 which would consolidate ash in place at the SOEP and STEP propose to use the B Cell for ash. The reasons for excluding using B Cell for ash storage should be supported.*

Response: DEQ commented on this as well. Talen's response indicated that STEP B Cell could be used for additional ash storage as needed; this would be further evaluated in the Remedial Design for Alternative 11. However, DEQ has selected Alternative 10 to be implemented for the Units 1&2 Area.

**16. The stormwater management plan for Alternative 11 should be described.**

*Alternative 11 would remove ash within the SOEP and STEP which is either saturated or within 5 ft of the highest predicted groundwater levels and consolidate that ash in mounded repositories on top of other ash within the SOEP and STEP footprint. This creates an irregular system of high mounded impoundments (shown in Figure 2 of Appendix B of the Integrated Report Addendum (Geosyntec 2020c). For instance, D Cell is shown to be stacked with coal ash approximately 85' above the current sidewalls and 75' above the STEP main dam. The stormwater controls, erosion protection, and stormwater collection and management for these repositories will be complex. Alternative 11 should*

*describe in detail the plans for stormwater management to demonstrate that this Alternative is protected from erosion and will not impact surface and groundwater.*

Response: Talen has stated that stormwater management plans would be developed for the selected alternative in the Remedial Design.

**17. The groundwater modeling shows it is critical that the contingency measures (Monitored Natural Attenuation and Permeably Reactive Barriers) will work at this location.**

*The groundwater modeling shows that the proposed active groundwater remedies are likely to be effective for mobile contaminants sulfate and lithium, but not for boron and other contaminants that adsorb (cobalt, manganese, and selenium). Figure 1 below summarizes Talen's predictions for the percent decrease in volume of boron contaminated groundwater outside of the pond perimeter in 2070 and 2150.*

*In our comments above we bring up a number of issues with the modeling Talen uses to demonstrate the effects of leaving coal ash in the SOEP and STEP in contact with groundwater; those comments are especially relevant to Talen's predictions for Alternative 6A which leaves coal ash at both the SOEP and STEP in contact with groundwater. We discuss in Comment 1 that the analysis demonstrating that the saturated fly ash will not constitute a source is flawed.*

*All of the Alternatives however show that the remedy is predicted to be less effective over time and predict the boron plume will expand again after active groundwater remediation ends (Figure 1). This is due to the fact that the effectiveness of Monitored Natural Attenuation (MNA) or Permeably Reactive Barriers (PRB) are unknown at this time and are not included in the model. We agree that the alluvium downstream of the STEP main dam is a promising location for a PRB. MNA is a greater unknown.*

*Talen seeks to use MNA in each of their proposed alternatives because boron does not reach cleanup standards after active remediation. Other less mobile contaminants such as cobalt, manganese, and selenium, and radium may also not reach cleanup standards. MNA may be appropriate for the site given the limitations of the low-flow aquifers for active remediation such as flushing, capture and treatment. Given that the boron plume is predicted to begin expanding again after active groundwater remediation ends, it is absolutely critical that MNA feasibility is accurately demonstrated.*

*EPA provides the best guidance for demonstration of MNA feasibility that is least prone to errors and omissions. EPA's technical reference for use of MNA is EPA/600/R-07/139 October 2007 (<https://archive.epa.gov/ada/web/html/mna.html>). The EPA guidance describes a tiered process which if followed provides a high degree of certainty that contaminants which remain in groundwater will not impact humans or the environment. The tiers are summarized as follows:*

*Tier I. The plume is not threatening public health, is stable, and some direct evidence of contaminant attenuation exists.*

*Tier II. The attenuation capacity of the site exceeds the estimated mass of contaminant at the site.*

*Tier III. There is strong evidence that attenuation mechanism(s) will prevail over long periods of time.*

*Tier IV. A record of decision including a long-term monitoring plan and other site closure considerations is developed.*

*Accurate physical evidence from the site (aquifer matrix, chemical redox environment sampling, and groundwater concentrations) must be tied to thermodynamic geochemical modeling to evaluate the suitability of MNA for each Constituent of Interest (COI) which will remain after active remediation.*

Response: Similar to the Units 3&4 area, Talen has indicated that it intends to consider both the 2007 EPA MNA guidance as well as the 2015 EPA MNA guidance. DEQ agrees that MNA may be appropriate for the site based on contaminant and aquifer properties. DEQ previously requested that Talen move up the date of the MNA studies; Talen originally proposed starting MNA studies toward the end of the pumping period, however, DEQ requested that the MNA studies start immediately. Talen will now start the studies during the remedial design phase. DEQ will not approve the use of MNA until the studies have been completed and show strong evidence that MNA will be effective for all lower-mobility constituents.

Although the groundwater model predicts plume re-emergence after capture system shutdown in Alternative 10, the model does not account for removal of secondary sources in alternatives involving excavation; therefore, the model overpredicts plume re-emergence for Alternative 10.

## 18. MEIC COMMENTS

*As you come into the home stretch of this foundational portion of the cleanup work for the Colstrip coal-fired power plant, we encourage you to rely on the best science and the Montana Constitution. The duty of the state to implement our fundamental right to a clean and healthful environment is clear: "The state and each person shall maintain and improve a clean and healthful environment in Montana for present and future generations." MT Const, art. IV, §1.*

*As so thoroughly pointed out by KirK Engineering & Natural Resources, Inc., and provided by Northern Plains Resource Council, there is only one outcome that will best ensure the cleanup of groundwater near these ash ponds, protect future generations, and guarantee that those utilities responsible for the problem pay for the cleanup. The solution is Alternative 10. Talen's proposed Alternative 11 is a short-term solution for a very long-term problem. As KirK points out, Talen's solution relies on faulty calculations, makes unsubstantiated claims, fails to consider long-term effectiveness and permanence, and is overly reliant on monitored natural attenuation. The only way to avoid these flaws in a cleanup plan is to remove the waste and store it in a dry, properly lined and monitored site, far above the groundwater table.*

*Talen's alternative 11 simply kicks the can down the road. It would require future generations to be vigilant and likely be in the position of forcing Talen and the other owners, decades down the road, to do what you have the opportunity to require of them today. Make them clean this up correctly the first time, not after many of them have changed their corporate ownership and either don't exist or will claim they are not liable. Save the state a huge headache and resource down the road by making them cleanup these ash ponds properly the first time.*

*Colstrip needs economic development and kicking the can down the road will be an impediment to that outcome. There are many workers in Colstrip now who have the skills to tackle the extensive cleanup that is necessary. Cleanup will provide good jobs and an economic base for decades to come. The time to put those workers to work is now, not in 2050 when DEQ realizes that Talen's alternative has failed. In short, MEIC urges you to head to recommendations of KirK and NPRC. Increase the bond to cover all cleanup costs and do the job right the first time.*

Response: Thank you for your comments. DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Please refer to the responses to KirK Engineering's comments above, as well as DEQ's Fact Sheet and Decision Document for additional information regarding DEQ's decision.

**19. Email from Representative Mary Ann Dunwell**

*As a state legislator, I'm responsible to uphold Montana's Constitutional guarantee of a clean and healthful environment under Article IX Sections 1, 2 and 3. Section 3 states, "The legislature shall provide adequate remedies for the protection of the environmental life support system from degradation and provide adequate remedies to prevent unreasonable depletion and degradation of natural resources."*

*Also, a big part of my district is the Asarco Federal Superfund Site that has put East Helena residents through a long and arduous cleanup process. In addition, during my professional career doing public information for DEQ's Remediation Division, it became crystal clear from experience how important it is to do the cleanup right the first time.*

*I therefore disagree with Talen's inadequate plan for remediating the Colstrip Units 1 and 2 coal ash ponds. The middle-of-the-road Alternative 11 is short-sighted and not sustainable. Rather, I recommend and request that you decide on and implement Alternative 10, which would require excavation and relocation of all ponds and the waste relocated to a new landfill higher and drier.*

*If you're going to do something, please require it be done right for a sustainable clean and healthful guarantee for future generations of Montanans. Thank you for your consideration.*

Response: Thank you for your comment. DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

## **20. Letter from the Montana State AFL-CIO**

*We are writing regarding the Department's report on the Colstrip Units 1 and 2 Remedy Report that proposes four alternatives for remediation of the groundwater and ash ponds associated with Units 1 and 2. The Montana AFL-CIO strongly believes that the cleanup criteria decided by the Department will play an integral role in the future economic vitality of Colstrip. An adequately stringent cleanup criteria is necessary to ensure that Montana taxpayers are not responsible for costs associated with cleanup, as well as prevent permanent contamination that will negatively impact future economic investments in the area.*

*Currently, Talen is proposing a cleanup criterion that would consist of limited pond dewatering, allowing some ponds to drain into the aquifer, cap-in-place closure for all ponds, and prolonged groundwater treatment. While this option will be incredibly cost effective, we believe this cleanup method will not stop future contamination from pond closures. Instead, we urge the Department to require a cleanup criterion that will implement full dewatering and excavation of coal ash sites, pond and soil dewatering and capping at Units 1 and 2, and groundwater treatment. We believe this method will adequately clean the environment while protecting taxpayers and preserve the future economic potential of the Colstrip area. Talen has also estimated that pond excavation at Units 1 and 2 would result in 130 full time positions for a duration of 12 years. The workers that dug and burned the coal at Colstrip deserve the opportunity to remediate the site and ensure that cleanup is done right.*

*Uncontaminated water and soil are essential for the City of Colstrip and its workers to achieve their long-term economic potential. We strongly urge the Department to choose a cleanup criterion that will protect these fundamentals while enabling the community to achieve their future potential.*

Response: Thank you for your comment. DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. This alternative will also incorporate dewatering of the ash prior to excavation, and groundwater treatment through a freshwater flushing/groundwater capture system to address existing contamination from historic pond seepage.

## **21. Letter from Daniel R. Shaffer**

*I'm writing to request that the DEQ approve a remedy alternative that provides a permanent solution to the groundwater pollution associated with the Units 1&2 ash ponds. The Colstrip Units 1&2 process water ponds have been leaking since their construction more than 40 years ago and consequently the plume of leaked plant process water has expanded significantly through the years. The ponds will continue to leak as long as bedrock is in contact with saturated coal combustion materials present in the impoundments and effluent and process water from the generating units. The aquifers that are impacted by the 1&2 ponds are hydraulically connected to the springs, wells, and creeks that make agricultural livelihoods in this area possible. Armells Creek has shown the effects of coal ash pond leakages with high Total Dissolved Solids (TDS) concentrations and sulfate concentrations.*

*The citizen lawsuit from adjacent landowners in 2008 resulted in a \$25 million settlement for damages caused by the leaking ponds but did not result in a permanent fix to control the spreading of the contaminated groundwater; it only required an expansion of the capture system in an attempt to remove more groundwater from the affected aquifers. Pumping of contaminated groundwater forever is not the solution. The contaminant source must be eliminated.*

*Talen Energy has proposed in Geosyntec's Interim Report Addendum (IRR) that Alternative 11 is the preferred alternative, which proposes removing portions of the Stage One and Stage Two coal ash ponds that are below the water table within the lowest portions of the impoundment. They would then store that coal ash above their projected water table within existing cells of the closed 1&2 ponds and in areas that are on the walls of the valley.*

*They propose to expand its current groundwater capture system, augmented with freshwater injection wells, rather than remove the entire mass of waste and contaminated soil. However, DEQ should reject this proposal because full excavation of the coal ash in the Stage One and Stage Two Ponds is the only remedy that will prevent a long-term source of contamination from being in contact with groundwater.*

***The only complete solution is a removal of the entire source of contamination and remediating the impacted groundwater.***

*Additionally, Alternative 10 in the IRR as the only alternative that will meet the legal requirements of the AOC and address violations of the Montana Water Quality Act and Major Facilities Siting Act, as specified in the AOC.*

*Partial removal and storage in current cells will likely require perpetual groundwater monitoring to ensure that the water table remains beneath the remaining coal ash. There is also a risk of susceptibility to erosion of in-place coal ash. Anything less than full removal will create problems during reclamation and backfilling, require perpetual monitoring to ensure coal ash does not erode below the water table, and relies on the assumption the water table will forever remain beneath the contaminant source. **There will always be seepage through the coal combustion materials into the underling bedrock and alluvium as long as the coal combustion materials remain in place.***

*The complete excavation of closed coal ash ponds at coal-fired generating plants by utilities across the country is increasingly becoming the national standard for wet coal ash cleanup. Involved citizens are continuing to advocate for removal and dry storage of all coal ash.*

*The Capture and Flushing component of the proposed closure remedy that has been conditionally approved by DEQ should be carefully reviewed, particularly the first “pilot” phase to be conducted starting in 2021. Talen states that the freshwater flushing would increase the flux, or flow, of groundwater constituents removed by the upgraded capture system, Although “reduced cleanup timeframes” are a reasonable objective, the injection of groundwater into the aquifers beneath the STEP dam may result in reducing the groundwater gradient directly above and adjacent to the injection area that would be required to achieve adequate dewatering in the coal ash, which is proposed to be occurring from 2021 through 2025.*

*If the pilot freshwater flushing system is installed, an evaluation of the hydraulic effects of the dewatering effort should be conducted and not only “adjusted”, but discontinued, if effects are determined. Effective and timely dewatering of the coal ash is to be the most critical component of the remedy.*

*Additionally, it is not clear why a greatly expanded freshwater flushing system following excavation and removal of the SOEP and STEP coal ash should be included in the remedy. Although residual groundwater contamination will inevitably remain after contaminant source removal, continued maintenance and operation of the capture system following removal will likely be all that is required in a re-established groundwater gradient. Implementation of the expanded system will also be ultimately very costly and will require perpetual maintenance.*

*Alternative 10, with future adaptations as needed, is the only plan which has been provided in the IRR that will help ensure the long-term health of the region. It includes dewatering of coal ash and unconsolidated sediments underlying the SOEP and STEP by utilizing existing underdrains and well capture systems, and complete removal and excavating of coal combustion materials from the impoundments. It is the only alternative that provides complete removal of the contaminant source.*

Response: Thank you for your comment. DEQ has selected Alternative 10, (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 Ponds. DEQ believes this is a permanent solution that mitigates further impacts to groundwater from the ash.

DEQ was not party to the 2008 lawsuit and does not know the terms of the settlement. However, AOC was signed in 2012 as an enforcement action to require Talen to address the groundwater contamination.

DEQ is not selecting Alternative 11 for several reasons. First, DEQ has concerns about the accuracy of model predictions of the water table elevation, as this alternative is heavily reliant on those predictions. Second, the model did not account for cessation of upgradient Rosebud Mine dewatering in 2031, which would raise the water levels an additional 3 – 4 feet and potentially require more ash to be removed to achieve 5 feet of separation. And third, DEQ has concerns regarding compliance with the Federal CCR Rule.

Regarding capture/injection system, injection would be delayed until after excavation is completed to ensure injection does not interfere with dewatering efforts. The injection system is planned to be run for 20 years (until 2050) to address remaining contamination from historical pond seepage. However, if groundwater data shows the system may not be necessary after the ash is removed, DEQ would consider removing this aspect of the remedy.

For additional details on DEQ’s selection, please refer to DEQ’s Fact Sheet and Decision Document.

## **22. Letter from Beth Kaeding**

*I am submitting comments on the long-term cleanup and closure plan for the Colstrip Units 1 & 2 coal ash ponds. By the way, I phoned in to the Montana Department of Environmental Quality (DEQ) presentation Tuesday evening and was impressed by how understandable the explanations you and others gave about this plan (especially as I could not see the slides). Thank you for all your hard work on this critical-to-Montana issue.*

*I lived at Colstrip during the mid-70s when Colstrip Units 3&4 were being built. I was doing biological work to document wildlife in the area that would potentially be affected by the power plants and its coal source, the Rosebud Mine. I am also a long-time member and past chair of Northern Plains Resource Council. For many years, I have joined my friends in southeastern Montana in working to ensure that that part of our state is not given over to various development schemes that make money for some and leave messes for the rest of us. I (and all my friends at Northern Plains) am dedicated to protecting our water quality, family farms and ranches, and promoting land stewardship and strong rural agricultural economies.*

*Northern Plains' members who ranch and live near the Colstrip Power Plants have, for decades, had to contend with polluted water that has leaked from the plant's unlined coal ash ponds into the surrounding aquifers. Colstrip hosts one of the biggest coal ash pond complexes in the nation at 837 acres (in total). **These coal ash ponds store the majority of Colstrip's coal ash (23 million tons) and are leaking an average of 540,000 gallons of contaminated, toxic water into the aquifer each day.** This leakage has resulted in a contamination plume that extends more than a mile out from the pond complex and to a depth of a mile into bedrock aquifers. Water quality data submitted by Colstrip owner/operator Talen Energy in April 2020 documents that the coal ash ponds for Units 3&4 are leaking polluted water that is 58 times the Montana state water quality standard for boron, 51 times the standard for lithium, and 90 times the standard for molybdenum to name just a few of the pollutants. We are sure these data are essentially the same for the coal ash ponds at Colstrip Units 1&2.*

*For more than 40 years, Northern Plains' members have repeatedly tried to get the owners of the power companies (from the Montana Power Company to today's owners: Puget Sound Energy, Portland General Electric, Avista, PacifiCorp, Talen Energy, and NorthWestern Energy/NWE) to address the leaking coal ash ponds and stop the pollution, but the companies ignored the issue.*

*Finally, when forced, the companies drilled pump-back wells that continuously pump the polluted water out of the aquifer and re-circulate it back to the ponds. In 2011 there were 900 wells surrounding the Colstrip coal ash pond complex, today there are close to **2,000 wells** that monitor and pump about **1 million gallons of water each day** out of the aquifer and back to the ponds to keep the toxic plume from spreading. Without this pumping, the plume of pollution would spread even farther and faster. But only companies trying to get out of their responsibilities to the people of the area, Montana, and the environment can believe that this is the solution to the toxic waste mess at Colstrip. And it is up to the state regulatory agency, DEQ, to ensure that these companies are held accountable. The last thing Montana needs is another toxic waste cleanup mess that is left to the taxpayer to fix. We have enough Berkley Pits, Libbys, and Zortman-Landuskys.*

*The only true way to fix this problem is to dewater the coal ash ponds, excavate the coal ash and store it "high and dry" in lined waste facilities, and then treat the water to clean it. Because Colstrip*

*Units 1&2 coal ash ponds sit directly IN the aquifer, there is NO other solution. Thus, Alternative 10 is what should be chosen by DEQ. Leaving any coal ash in place in the ponds (including the “cap-in-place” Alternative 6A and the partial excavation Alternatives 7C and 11) will only mean that the toxic waste mess is NOT cleaned up. Without proper cleanup, ratepayers – and eventually all taxpayers – will have to pay much more down the road to deal with the toxic waste mess. That would be a tragic, expensive, and avoidable legacy.*

*Frankly, I am old enough to remember the public comment hearings held under the Major Facility Siting Act for building the Colstrip Power Plant. This is when the residents and ranchers of the area were promised, unequivocally, by DEQ’s predecessor agency (Department of Health and Environmental Sciences) that “the coal ash ponds would never leak.” So much for promises. Today’s DEQ must ensure that the mess that started 50 years ago is truly cleaned up. Only Alternative 10 will do that. Only Alternative 10 will satisfy the DEQ’s obligations under the Administrative Order of Consent (AOC) and meet the legal requirements under the Montana Water Quality Act and the Colstrip Power Plant’s Major Facilities Siting Act permit.*

*Nationally, it has been documented that 90% of coal ash ponds have contaminated the groundwater beneath them. Excavating coal ash ponds – also known as “closure by removal” – is quickly becoming the national standard for wet coal ash cleanup. In the last five years, bipartisan legislatures in both North Carolina and Virginia passed laws requiring utilities to excavate all coal ash in contact with groundwater. Multi-million dollar excavation projects are also underway in South Carolina and Tennessee. Earlier this year, Duke Energy reached an agreement with state regulators and community groups to provide \$8-9 billion to excavate 80 million tons of coal ash in the Carolinas.*

*I understand that true cleanup of this toxic waste mess will cost much more than the bond already secured by DEQ from Talen Energy. But, the Colstrip owners have made billions through the years operating the power plants and selling that energy. Just in 2017 Talen Energy paid their shareholders a special bonus of \$500 million. Corporate executives make millions every year. For example, between 2016 and 2018, the top five executives at NWE together earned \$19.5 million (per “Investor Disclosure”). I am sure the story is the same for the other owners of the Colstrip Power Plant complex. The price of responsible, permanent cleanup should “trump” corporate profits.*

*In 2018 and 2019, Northern Plains researched and published two studies, which I know that you folks at DEQ have, that outline effective remediation strategies available to the Colstrip Power Plant owners. These strategies would create hundreds of good-paying jobs for the region and permanently clean up and restore groundwater quality in the area. While DEQ is only mandated (by its mission) **“to protect, sustain, and improve a clean and healthful environment to benefit present and future generations,”** ensuring that the cleanup is done right can also be a win-win situation for the local community by ensuring good paying jobs. The only alternative presented that even comes close to DEQ’s mission, which is the agency’s “legal guidelines, values, and core beliefs” is Alternative 10. I strongly urge you to **choose Alternative 10** for the sake of Montana’s environment, especially its precious waters, and its people and the Colstrip community.*

Response: Thank you for your comment. DEQ has selected Alternative 10 as the remedy that will be implemented for the Units 1&2 ponds. DEQ believes Alternative 10 is the only remedy that will permanently achieve cleanup criteria. Talen has estimated that Alternative 10 will create approximately 130 FTE positions during the 12-year duration of the excavation. For additional

details and rationale for DEQ's decision, please refer to the Fact Sheet provided by DEQ and DEQ's Decision Document.

## **PUBLIC COMMENTS:**

23. *The following comment was received from 40 separate emails, plus 548 via postal mailing:*

*I urge you to choose Alternative 10 for the cleanup of the Colstrip Units 1 & 2 coal ash ponds. The only way to guarantee the long-term safe and effective cleanup of these ponds is to require the power plant owners to excavate the ash and move it to a state-of-the-art landfill far above the groundwater table. Furthermore, you should require an adequate bond for the full cleanup now in order to protect Montana taxpayers later. Let's get this right the first time!*

Response: DEQ has selected Alternative 10 as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

24. *203 Emails were received from members of the public with the following text expressing support for Alternative 10:*

*I'm writing to request Montana DEQ select Alternative 10 in the Colstrip Units 1&2 Remedy Evaluation Report, Part 2. The DEQ must require all coal ash at the Units 1&2 ponds at Colstrip be excavated to protect Southeastern Montana from watching a future Superfund story play out. Montana has a long history of legacy pollution from our industries. We cannot have a "wait and see" approach with this cleanup, it must be done right the first time to protect the health of the Colstrip community and restore good water quality for the region's agriculture economy. Please approve Alternative 10 and require the Colstrip Power Plant owners to:*

- Excavate all coal ash at the Units 1&2 ponds*
- Store all coal ash in a new, lined landfill sited above the water table*
- Bond for \$600 million to adequately cover the costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup*

*An additional 47 emails were received from members of the public expressing support for Alternative 10, with the same ultimate comment:*

*Please approve Alternative 10 and require the Colstrip Power Plant owners to:*

- Excavate all coal ash at the Units 1&2 ponds*
- Store all coal ash in a new, lined landfill sited above the water table*
- Bond for \$600 million to adequately cover the costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

*25. I am writing about the toxic coal ash impoundments at Colstrip plants 1 and 2. They are below the water level and are polluting the nearby ground water. The company needs to be responsible and clean up this environmental degradation. The tax payers are not the responsible party. Consequently, DEQ needs to adopt Option 10 that calls for removal of the toxic coal Ash to a lined disposal impoundment above water level. Please protect the citizens and tax payers of Montana. Thank you.*

Response: DEQ has selected Alternative 10 as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

*26. Our state constitution guarantees us a clean and healthy environment. But leaking coal ash ponds at Colstrip are polluting the groundwater. Please do not thrust this problem into the future for our children and grandchildren to deal with. Require the Colstrip owners to clean up the ash ponds for Units 1 & 2 now.*

Response: DEQ has selected Alternative 10 as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup

and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

27. *Thank you for the opportunity for the public to comment.*

*I have lived in E Montana for 32 years. I have many friends and colleagues who live in Colstrip and are affected by the Ash Ponds and the water situation. As a pediatrician in the area, I have many patients from Colstrip also.*

*I am on the Children's Health Advisory Committee to the EPA, and on the American Academy of Pediatrics Council on Environmental Health. I know about the health effects of Chromium, Radium, Arsenic, Selenium and Lead on our children. The exposure of the region's residents to the water contamination is entirely the responsibility of the power plants owners. It should not be something dumped on the EPA/taxpayers. Given that a capping failed in the past and given that Unit 1 and 2's ash ponds sit below the water table, removal is the only reasonable option. We do not need an Eastern Montana "Butte". We do not need to continue to allow companies to sicken our residents, their livestock, and their lands without making proper amends.*

Response: DEQ has selected Alternative 10 as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

The groundwater plume does not contain chromium, arsenic, or lead. The list of contaminants determined to be a risk to human health and/or the environment are boron, sulfate, cobalt, manganese, selenium, and lithium.

28. *We urge you to choose Alternative 10 as a way to clean up the horrible coal ash ponds created by units 1 and 2. What we appreciate about alternative 10 is that it requires the Colstrip plant owners to remove the ash and then move it to a safe and reliably sound landfill which is way above the ground water level and thus which could not contaminate an aquifer or a source of water for human or animal use. This is the only way to guarantee effective and safe and long-term cleanup of the coal ash ponds. Please also require that the company pay enough money through an adequate bond for the cleanup. This will ensure that the company pays now rather than Montana taxpayers paying later.*

Response: DEQ has selected Alternative 10 as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen

calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

29. *I would like to provide comments on how to clean up Colstrip's water:*

*Excavate all coal ash at the Units 1&2 ponds, and especially ash located below the groundwater table. Store all coal ash in a new, lined landfill sited above the water table. Bond for \$600 million to adequately cover the long-term costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

30. *I remember sitting in an assembly in the mid-1970s, at Hellgate High School auditorium, that the Army Corps of Engineers sponsored on the selling to the public of the first two Colstrip coal fired generating plants. The place was packed with concerned citizens. One of the major issues at the time was the known pollution to groundwater that this would bring to Eastern Montana. The men showed up on a bare stage wearing their "casual" clothes: golf t-shirts and khaki pants. They handed out reassurances and promises that whatever pollution happened, it would most definitely be cleaned up. Industry knew that coal plants were a dirty business, but hey, they will do their best and clean up their waste. When we continued to point out industry wide problems with water quality connected to the coal industry, we were publicly denounced by the venerable gentlemen of the ACE as "Eagle Freaks." (I personally favor "tree hugger.") This was a two day educational event. The following day the men showed up in full dress uniform, looking for all the world like Army Generals complete with ribbons on their chests and the stage was replete with flags. They wanted to make sure we freaks knew who was in charge and it wasn't the concerned citizens of Montana. Well, here we are in 2020*

*and the cleanup is a fight that concerned people predicted in the 1970s. Promises mean nothing to the coal industry.*

*By doing the following three things, the coal companies that made those promises fifty years ago can salvage some of those promises. DEQ can hold the coal industry to cleaning up the coal ash 1 and 2 ponds.*

- Excavate all coal ash at the Units 1&2 ponds, and especially ash located below the groundwater table*
- Store all coal ash in a new, lined landfill sited above the water table*
- Bond for \$600 million to adequately cover the long-term costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup*

Response: Thank you for your comment. DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

*31. The Units 1&2 coal ash impoundments have been polluting the surrounding ground and surface water since they were constructed in the 1970's. The water in the impoundments contains toxins, such as arsenic, lead, mercury, and many other harmful toxins.*

*Please don't allow Colstrip to use the cheaper alternative of simply "capping" the ponds in place.*

*Please approve Alternative 10 - a "high and dry" solution that requires excavation of all coal ash and moves the coal ash to a safer lined landfill on company property.*

*Specifically:*

*Excavate all coal ash at the Units 1&2 ponds, and especially ash located below the groundwater table*

*Store all coal ash in a new, lined landfill sited above the water table*

*Bond for \$600 million to adequately cover the long-term costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup*

*Thank you for protecting Montana water quality and for making industry (instead of tax payers) pay for the mess they created and have profited from.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

Although the groundwater plume does not contain arsenic, lead or mercury, the list of contaminants determined to be a risk to human health and/or the environment are boron, sulfate, cobalt, manganese, selenium, and lithium.

32. *I am sorry to read about the proposed cleanup plans for Colstrip 1 and 2. Because they are half measures, that will still allow seepage into ground water I am afraid that the citizens of the State of Montana will once again be on the hook for the final cleanup of this horrendously polluted site. I urge you to have all the coal ash excavated, especially the ash located below the groundwater table. No other measure is safe for the future of this site. All the coal ash then removed should be stored in a brand new and lined landfill site above the water table. Future ratepayers in Montana also need to be protected from any future groundwater pollution from this super site. There should be at least a \$600 million dollar bond to cover any future cleanup. I do not want my children to be paying for a mess that was made during my lifetime, especially since the shareholders of Colstrip have made a fortune and have not felt responsible to the people of this state, to clean up their mess at any time in the past. They would not do so now unless forced, and they will be off the hook in the future if there is not a large bond.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

*33. I demand that Montana DEQ approve Alternative 10 - a "high and dry" solution that requires excavation of all coal ash and moves the coal ash to a safer lined landfill on company property for the coal ash ponds 1 & 2 at Colstrip. This is clearly the healthiest and safest way. Let's truly commit to caring for not only those alive today, but for future generations.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*34. I am very concerned about the coal ash ponds at Colstrip. We need to hold the owners accountable and demand a proper cleanup. Contamination of ground water is a serious offense for human health and safety as well as wildlife.*

*Excavate all coal ash at the Units 1&2 ponds, and especially ash located below the groundwater table*

*Store all coal ash in a new, lined landfill sited above the water table*

*Bond for \$600 million to adequately cover the long-term costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup. We need to act.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in

the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

35. *It is important to pass alternative 10 when considering the cleanup left behind of the Coal Strip power plant. Take a look at what has happened in Libby, Zortman-Landusky and Butte to mention a few. The company shuts down leaving toxic waste that contaminates the ground water in perpetuity. Coal Strips owners profited from the powerplant. They should be the ones who clean it up, not the American taxpayer.*

*They need to:*

*Excavate all coal ash at the Units 1&2 ponds, and especially ash located below the groundwater table*

*Store all coal ash in a new, lined landfill sited above the water table*

*Bond for \$600 million to adequately cover the long-term costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

36. *Please for once protect Montanans from the rape/ravage policy of the mining industry (not withstanding the popular NPR series, this one finds Butte positively depressing!) I expect that you will:*

*Excavate all coal ash at the Units 1&2 ponds, and especially ash located below the groundwater table*

*Store all coal ash in a new, lined landfill sited above the water table  
Bond for \$600 million to adequately cover the long-term costs of a large-scale excavation project and  
protect future ratepayers in Montana from financing cleanup  
Thank you for your time and attention to this timely matter.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

*37. I strongly urge the Department of Environmental Quality to require "high and dry" cleanup of the coal ash in the Colstrip 1&2 ponds as outlined in "Alternative 10". It is absolutely unacceptable to leave the waste in place, contaminating groundwater for the foreseeable future.*

*As a veteran supporter of groundwater clean-up at the Milltown Superfund Site, I can vouch for the solid benefit that can come from a remediation that is as complete as possible.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*38. The Colstrip Units 1&2 coal ash impoundments range over 330 acres, are composed of toxic coal ash sludge to a depth of 50 feet, and sit in the groundwater table. These impoundments have been polluting the local ground and surface water since the 1970's. The water in the impoundments contains a number of toxic substances including arsenic, lead, and mercury.*

*Please approve "Alternative 10," which requires excavation and removal of all coal ash to a lined landfill on company property. This is clearly the best solution.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

The groundwater plume does not contain arsenic, lead or mercury. The list of contaminants determined to be a risk to human health and/or the environment are boron, sulfate, cobalt, manganese, selenium, and lithium.

39. *I am in favor of the #10 "high and dry" option, to move the Colstrip sludge ponds and their toxic waste to high ground where they will be least likely to contaminate water and wildlife.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

40. *I am writing as a concerned Montana resident with regard to the Colstrip clean up. I wish to urge you to approve Alternative 10, (excavating of all coal ash and moving it to a safer lined landfill).*

*I am also in favor of a \$600 million bond to adequately cover the long-term costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

41. *Future residents of Montana should not be stuck with the cost of excavating buried coal ash after the burial was done on the cheap. Insist that ALL coal ash from both Units [above ground and below the water table] are moved to a secure landfill on Colstrip property.*

*Impose a substantial bond for the work to be done and don't let them off the hook as the demand for coal weakens. This state has a long history of industry taking resources which enrich them then climbing on a plane and heading out when the bottom falls out.  
You know this to be true. Protect the citizens of our beautiful state!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

*42. I am writing to urge you to require full cleanup of the coal ash ponds at Colstrip Units 1&2, alternative 10 in your planning documents. As a PhD Chemical Engineer it is clear from the science that the only way to assure environmental remediation is a full cleanup of the ponds.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*43. For the cleanup of Colstrip's water that is contaminated with coal ash, Montana DEQ should approve Alternative 10 – the "high and dry" solution that will require excavation of all coal ash from Units 1 and 2 and move it to a safer, lined landfill on company property. The alternative should include excavating all coal ash at the Units 1 and 2 ponds, especially ash located below the groundwater table; storing all coal ash in a new, lined landfill sited above the water table; and bonding for \$600 million to adequately cover the long-term costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen

calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

44. *Please include my comments in the record of Colstrip Water Clean-up. Set a bond for at least \$600 million to protect Montana rate payers by covering long-term costs of a large scale excavation and above ground storage of the coal ash from Colstrip Units 1 & 2.*

*All coal ash excavated from Colstrip units 1 & 2 needs to be stored in a new, lined landfill site located above the ground water table.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

45. *I would like DEQ to choose Alternative 10 that will require Colstrip owners to clean up the ash ponds for Unit 1 and 2.*

*Colstrip owners need to clean-up their toxic mess TODAY. The leaking ash impoundments ponds leak approximately 200 million gallons of toxic effluent into the groundwater every year. This is unacceptable. The Plan that Talen has proposed won't clean up most contaminants until 2070. Even worse is that Talen's plan would leave some harmful contaminants in groundwater until 2119 – and beyond.*

*Specifically, these ponds need to be dewatered, excavated, and a permanent storage for coal ash waste found in a properly lined, monitored and licensed landfill. Talen needs to model of all pollutants and do annual testing to show that they are cleaning up their mess. Furthermore, an adequate bond should be required now for the full cleanup. The cost of this should not fall onto the Montana taxpayers at any time.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

46. *My name is Sherry Staub. I live in Bozeman and moved here from Davenport, Iowa. When my son....(who had been a wildland firefighter and is now a 4th grade teacher in Whitefish, MT) first introduced me to Montana... I thought: Iowa is definitely not heaven.....Montana is!*

*It wasn't just the incredible natural landscape...but the intentional care for the environment that impressed me. Coming from a state that is mostly responsible for the "dead zone" in the Gulf of Mexico because of uncontrolled fertilization and pest control chemicals dumped on the landscape....I was in awe of the intentional desire to protect the land, water and air.. I commend the closing of 2 of the Colstrip Units....but now I am writing to implore you to deal with the pollution caused by coal ash. It seems your choices are to cap the ponds or completely remove and transport to a safer site. Right now the pond lies below the water table and will forever remain a threat to the environment.*

*Please, please, please choose Alternative 10 to handle this situation. It will not only protect the environment, but provide jobs and keep Colstrip and our state from bearing the future financial burden of dealing with another Superfund Site.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

47. *Concerning cleanup of Colstrip power plant's coal ash impoundments, I urge DEQ to require a cleanup of the Colstrip power plant's coal ash impoundments that protects and restores surface and groundwater.*

*These impoundments reach down into the groundwater and have been polluting the surrounding ground and surface water with toxins since they were constructed in the 1970's. I urge DEQ to approve Alternative 10—requiring excavation of coal ash and placing that coal ash in a lined landfill above the water table. In addition, require a bond sufficient to cover the long term costs of the cleanup.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

48. *We need to put a permanent stop to leaking coal ash pollution. Please select Alternative 10 and move all the coal ash from ponds at Colstrip Units 1 & 2 into a new lined landfill. Do not leave any coal ash in the water table. Require a bond for \$600 million to make sure the public does not get stuck with near term or long term costs. Future generations of Montanans deserve nothing less.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen

calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

49. *Just do it right the first time. Clean it all up. Leave No mess behind. It's the right thing to do, we all know it.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

50. *Thank you for the work you do. Please continue to protect Montana, our home and land we love, by making sure the cleanup necessary is done right the first time. Please hold a higher standard for the sake of all the people who live in and love being here in Montana. Thank you!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

51. *It is essential that DEQ select Alternative 10 in the report, so that the site is fully excavated to avoid a likely future massive pollution problem for Southeastern Montana. This clean-up must be done right the first time.*

*CAP-IN-PLACE FAILED IN 1997: The original ash pond for Units 1&2 was capped in place in 1997. This pond continues to leak 12,000 gallons of wastewater per day and is adjacent to the current 1&2 pond. It's because the companies decided on a short-term – instead of permanent – strategy to close that pond.*

*RISK TO COLSTRIP AND TO TAXPAYERS: Colstrip runs a strong risk of becoming a Superfund site without proper coal ash storage, and Superfund designation would have a long-term effect on Colstrip's future. Montana has 16 Superfund sites already. It's an old story in our state that corporations leave behind a mess for communities and taxpayers to deal with – Butte, Libby, Zortman-Landusky. DEQ has full authority to require as protective a cleanup as they see fit at Colstrip. - JOBS: Removal projects create jobs. They require workers to build a new (sic)*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

52. *Montana has supplied a dependable skilled workforce to power much of the country. Companies extracting Montana resources have enriched themselves while leaving truly devastating consequences to land, air and water here. Our workforce has proven they are more than capable of retraining into different forms of energy production. Your companies must keep your word to restore damaged lands and waterways in addition to providing funds for retraining the workforce that earned your massive profits. Keep your promise to Montana.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

While DEQ supports retraining the workforce and hiring locally, DEQ does not have the regulatory authority to require this. However, Talen estimated in the report that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

53. *Greetings! I am a young person who cares about safeguarding our ecosystems and communities from coal pollution. I support a serious, committed and responsible cleanup for the 1&2 ponds before Montana DEQ makes a final decision.*

*I would like to express support for the following measures:*

*Please excavate all coal ash at the Units 1&2 ponds, and especially ash located below the groundwater table.*

*Please store all coal ash in a new, lined landfill sited above the water table.*

*Please create a bond for \$600 million to adequately cover the long-term costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup.*

*I am concerned that The Units 1&2 coal ash impoundments cover 330 acres, are composed of toxic coal ash sludge measuring roughly 50-feet deep, and sit in the groundwater table. The water in the impoundments contains toxins, such as arsenic, lead, mercury, and many other harmful toxins. For example, the level of manganese measures over 1,000 times more than safe drinking water standards. Let's clean this area up properly; our ecosystems and communities will benefit.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event

that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

The groundwater plume does not contain arsenic, lead or mercury. The list of contaminants determined to be a risk to human health and/or the environment are boron, sulfate, cobalt, manganese, selenium, and lithium.

54. *Please accept my comment urging the Montana DEQ to approve Alternative 10 - a "high and dry" clean up solution that requires excavation of all Colstrip coal ash and moves the coal ash to a safer lined landfill on company property. The coal ash ponds are continually leaking toxins into the ground water and despite being pumped back into the ponds, this threatens ground water for many years to come. The suggested capping of the ponds will not stop this leakage.*

*We need corporate responsibility for a robust cleanup that will maintain clean water for future generations. This would include excavation of all coal ash from CU 1 & 2 and secure dry storage above the water table. The owners should provide a bond of at least \$600 million for this clean up. Ratepayers should not be left holding the bag for Investor Owned Utility clean ups!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

55. *Thank you for the opportunity to comment on Colstrip units 1 and 2 cleanup plans. I urge Montana DEQ to select Alternative 10 in the Colstrip Units 1&2 Remedy Evaluation Report, Part 2. To protect southeast Montana from further coal ash pollution, please require that all coal ash at the Colstrip Units 1 and 2 ponds be excavated, "high and dry" as they say. There is too much at stake to not do the right thing here. We all know that the impoundments – which sit in the ground water table - have been polluting the surrounding ground and surface water since they were constructed in the*

*1970s. That water contains toxins such as arsenic, lead, mercury, and we owe it to the landowners and Montana citizens who live there to clean it for them.*

*Montana has a long history of legacy pollution from our industries. We cannot have a "wait and see" approach with this cleanup, it must be done right the first time to protect the health of the Colstrip community and restore good water quality for the region's agriculture economy.*

*Please approve Alternative 10 and require the Colstrip Power Plant owners to:*

- 1) Excavate all coal ash at the Units 1&2 ponds,*
- 2) Store all coal ash in a new, lined landfill sited above the water table, and*
- 3) Bond for \$600 million to adequately cover the costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

The groundwater plume does not contain arsenic, lead or mercury. The list of contaminants determined to be a risk to human health and/or the environment are boron, sulfate, cobalt, manganese, selenium, and lithium.

56. *The "Integrated Remedy Report – Part 2, Analysis of Alternatives (September 2020)" is too technical for a layperson, but the presentation was helpful.*

*I am in favor of Alternative 10. It's the right way to cleanup. All the other alternatives are band aids. Moving the material to lined areas allows it to be permanently stored safely. The current contaminated areas can be reclaimed and the amount of existing groundwater remediation is minimized.*

*Bigger picture: we need to hold fossil fuel polluters accountable. They need to incur the cost of the damage they caused, and that will result in a more accurate cost comparison to alternatives.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

57. *Please be certain the owners of the Colstrip power plant really clean up their mess through approval of Alternative 10. Specifically they should excavate all coal ash that they've produced and store it in a new landfill, above the groundwater, so that further contamination of our water isn't possible. They should also be financially responsible for the costs, short and long-term, of the excavation and clean up, and not pass along these costs to consumers.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

58. *It's been said that MT is one town with very long roads. Though I live in Missoula, I have friends in Colstrip. I write to you on their behalf.*

*My friends deserve more than just capping the ponds. Instead they deserve Alternative 10 - moving the coal ash to lined landfill.*

*In addition, there should be a bond for \$600 million to adequately cover the long-term costs of a large-scale excavation project and protect future ratepayers in Montana from financing cleanup.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

59. *I am interested in containing the coal ash waste left by years and years of work at Colstrip. I understand that some of the ash is located below the groundwater table. It, and all of it above and below the water table, should be cleaned up. A cap will not be satisfactory as ash could continue to pollute ground water.*

*Polluting water, ground or surface, is a very unhealthy thing, for people and for life in general. I ask that you require a full clean up with all the coal ash stored in a lined landfill above the water table. You will need to require a bond sufficient to cover the costs.*

*The days of allowing industry to leave the land and water in a polluted state and with the people holding the bag for the cost of clean up is over. These costs may be fairly "invisible" but they are real and have a real impact on all of us, witness the on-going serious mess in Butte.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

60. *The DEQ should require the owners of Colstrip #1&#2 to move the coal ash to a safe landfill ABOVE the water table so we know it will not continue to pollute nor possibly be left for our children or grandchildren to address.*

*Choose Alternative 10 and require the clean up of the ash ponds now.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

61. *Regarding the cleanup of Colstrip ash ponds, all residue must be completely removed and paid for by the owners and NOT taxpayers. I strongly urge you to comply with Alternative 10 for this cleanup.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

62. *I would like you to consider my request for selecting Alternative 10 regarding the clean-up plan for the leaking coal ash ponds at the Colstrip coal-fired power plant. And please require Colstrip owners to clean up ash ponds for Units 1 and 2.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

**Written public comments advocating for Alternative 10 on Postcards with “DEQ: Approve Alternative 10 – fully excavate Colstrip Units 1 & 2 coal ash ponds”**

63. *Alternative 10 is the way to clean up Colstrip Units 1 and 2 and coal ash ponds – it’s the best way and only way to ensure we won’t be paying more later. The cost may currently “appear” to be too much but it won’t be, in reality.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

64. *Support Alternative 10. This is the only safe remedy for the citizens of Colstrip and the only equitable remedy to hold those who created the ponds responsible. Clean up that removes coal ash permanently is also the biggest job creator for those workers in Colstrip during the inevitable transition away from fossil fuels. Support Alternative 10.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

65. *All over Montana there are years of prior industrial activity, never cleanup up and until now polluting our waters and soil. Let Colstrip not be the next one!! Clean up now!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

66. *Montana already has too many Superfund sites. Not doing a complete clean up at the coal ash ponds will only put off the need for a real, complete remediation of the problems these ponds have posed. I support Alternative 10, a complete excavation of ponds 1 and 2. This will provide jobs as well as protect the taxpayers in the future.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

67. *The Colstrip clean up can only be done one way for it to be completely taken care of. I urge you approve Alternative 10 to fully excavate Colstrip Units 1 & 2 coal ash ponds. Don't saddle our children and grandchildren with the task and expense. Once and done!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

68. *I support Alternative 10 – dig out for all coal ash at the 1 & 2 ponds. Question – if you lived in Rosebud County, would you risk your water supply by the “cap in place” method of containment of coal ash, risking leaching into your water. Of course not. Neither would I! The ponds must be excavated for long term safety. It also creates jobs – skillful and high paying.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

69. *I am urging you and DEQ to make the right decision on responsible clean up of Colstrip Coal ash ponds. The only solution that will permanently fix this is to remove all coal ash that is in contact with the water table and build a lined landfill for storage. Please do the right thing.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

70. *Please support Alternative 10 to clean up coal ash ponds at Colstrip. This is the safest alternative for the long-term. It will also create jobs which are needed in Colstrip.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

71. *In regard to the final determination regarding cleanup and closure of Units 1 & 2 at Colstrip, I hope you will be requiring the complete excavation of these ash ponds. We were promised, years ago when this all started, that when Colstrip was complete, restoration would also be. Restoration does*

*not mean to “cover up” it means to return to the original state. That means no coal ash left in a lined pond or containment. Protect our land and water!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*72. As a retired environmental engineer with extensive experience with remediation of Superfund sites, I strongly urge you to choose Alternative 10 as the best way to reduce the long term risk of groundwater contamination.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*73. I am writing to support Alternative 10 for clean up of the Colstrip ash ponds. Is there any excuse for not doing it right and preventing future damage to our precious water. Money is not the bottom line. Right is the bottom line. So please do it right and create jobs for the community as they transform from an extractive community to a sustainable one.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*74. Please create good jobs to clean these coal ash ponds – protect groundwater! And fix the situation permanently!!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*75. Water is our most important resource. We are relying on the DEQ to protect our water. Please, please approve Alternative 10. Thank you for the good work you do.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*76. I support Alternative 10 to protect the water of the Armells Creek Watershed and all its users. Please require the company to clean out the coal ash pond and not just cap it for taxpayers to pay for cleanup in the future.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

77. *We need this cleanup of Colstrip Units 1 & 2 done now. Excavate the ponds, fix it forever and create much needed jobs. Future generations should not have to do it years later. It is the responsibility at Colstrip to fix it NOW. Thank you.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

78. *I support the in depth cleanup of the Colstrip coal ash ponds as outlined in Alternative 10. Surely we care enough about our state to do the job right instead of making it a place of debris from big companies.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

79. *Greetings. As you consider cleanup alternatives number 10 to fully excavate these ash ponds assures that future pollution leaks are avoided because of this alternative. As a worker advocate, I know alternative 10 will provide good jobs with good pay to area workers.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

80. *I am writing to demand, if I may, that you approve alternative 10 to fully excavate the ponds. The benefits are obvious. It is the only way to begin the return of a healthy groundwater and restore the water quality for the people of Colstrip. The PSC has been under intense scrutiny to put the "public" back into the Public Service Commission. Is it time for the same with DEQ? That is, put environmental quality back into your deliberations?*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

81. *We strongly support Alternative 10 for cleaning up the ash ponds for Colstrip Units 1 and 2. As Montanans, we know the importance of clean ground water. We need to do the best we can to*

*protect the groundwater near Colstrip. Remove all the coal ash and do the best job we can for the entire Colstrip Community.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*82. I support Alternative 10 for removing coal ash in contact with water at Colstrip. As a former resident of the area who still has many friends in Rosebud County, and as a hunter who relies on healthy public lands and waters, I support a proper cleanup of the units.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*83. I ask that you approve Alternative 10 for clean up of Units 1 & 2 in Colstrip. This best protects the groundwater for future generations. This decision will also create many good paying jobs that will help the community of Colstrip. The taxpayers will also be protected as well. A win-win for taxpayers and the Community of Colstrip.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

*84. I am concerned about the environmental quality of Montana especially the groundwater at Colstrip. I want the ponds excavated and the toxic waste disposed of in a way that protects all groundwater. Fix forever and protect taxpayers. A permanent cleanup provides jobs and gives us a beautiful, safe Montana.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*85. With regard to the cleanup of the coal ash ponds at Colstrip, I hope you will support Alternative 10. This will be a permanent cleanup and will be more cost efficient over the long term. It will create good paying jobs for a sizable work force.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

86. *We do NOT need Armells Creek watershed contaminated. We have been working hard to keep our water pure. We are not on this planet to destroy it, just because we can. It is far more expensive to cleanup waste than it is to prevent it. We have made so; many advancements. Let's NOT destroy Colstrip. Water is a very precious commodity.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

87. *I have lived in poison (Lockwood Superfund Site). You can't just cover up poison (cap in place), you must remove the poison. Supporting Alternative 10 removes the poison as well as creating long term, good paying jobs that can be done by the existing work force. Do the right thing, the best thing for Montana and the residents of Colstrip who have been poisoned.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

88. *I'm writing the day after HE WHO IS NOT NAMED, our President, has already declared the upcoming elections to be invalid. It seems especially important to do something to save our country, and maybe this is something. Approve Alternative 10 – fully excavate Colstrip Units 1 and 2 coal ash ponds.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

89. *Yes, the coal ash ponds should be removed and the ash stored in a lined landfill. This will prevent the coal ash from coming in contact with and polluting groundwater. It will also protect me, as a taxpayer, from being stuck with a big cleanup bill in the future. You see it happen time and again when corporations stick it to the taxpayer for clean up.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

90. *As an elected Delegate to the Montana Constitutional Convention in 1972, I feel very strongly about implementing the "right to a clean and healthful environment," which is cited in 2 provisions in the*

*final document. Please help protect Montana from future degradation by supporting Alternative 10. Please choose permanent cleanup over temporary solutions.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

91. *I urge you to decide on Alternative 10, the win-win solution for Montana's aquifers, for long term remediation jobs, and long term cost savings to taxpayers such as me.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

92. *The time has come. After years, decades of dithering, the coal has made many very rich and has support Montana government activities for a couple generations. Now it is time to clean it up! Dig out Ponds 1 and 2 at Colstrip and do it right. Please choose Alternative 10. We need the good jobs and we are constitutionally entitled to a clean and healthful environment.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

93. *Please support Alternative 10 and remove the coal ash ponds 1 and 2. This work will protect the groundwater and the watershed while creating good paying jobs.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

94. *Please seriously consider a permanent clean up at ponds 1 and 2 at Colstrip. I support Alternative 10 requiring a dig out for all coal ash and the 1 and 2 ponds. Montana taxpayers are already paying for enough environmental waste cleanup! Your decision for a permanent solution will create jobs and keep MT for future generations.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

95. *Thank you for selecting Alternative 10 in closure plans for Unit 1 and 2 ash ponds at Colstrip. We all know water is our most precious resource. So permanently protecting the groundwater is*

*paramount. This choice also creates jobs. Let's do the right thing for all Montanans and the next generation.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*96. As you can see, I am supporting Alternative 10. I fully support the Northern Plains research and recommendation. 1) Excavate the ponds. 2) "Pollute in place" is absolutely inadequate. As a retired person, I am beyond tired with the long-standing corporate practice of having Montana taxpayers pay in perpetuity for the malfeasance of bad actors. 3) Jobs are needed now.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*97. I favor Alternative 10, digging out all coal ash at Ponds 1 & 2. This would best protect the Armells Creek watershed. I am opposed to "cap in place" solutions, as it would allow pollution of the water table to continue, and would increase the liability for the future. 30 years of clean up would create a lot of good paying jobs.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*98. Our state constitution guarantees me and my family the right to a clean environment! Burning coal produces not only CO<sub>2</sub> which causes more greenhouse gas and climate change (our existential threat to life on this planet?!). Besides those "problems" coal ash is toxic, mercury and sulfur are released into the atmosphere and pollute our air and water! So, what to do? Clean this poison up! Do no Harm! Leave the planet better than you found it!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

99. *Approve Alternative 10 – fully excavate Colstrip Units 1 and 2 ash ponds.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

100. *Please pursue responsible Colstrip cleanup. We support Alternative 10 which requires a dig-out for all coal ash at the 1 and 2 ponds. Leaving ash there presents a terrible risk for Rosebud Co. taxpayers and residents. Also permanent cleanup is a job creator! And it avoids any further pollution down the road.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

101. *I don't trust the corporations who own Colstrip to do what is prudent in terms of clean up at the Colstrip Power Plant. Please insist that they fully excavate the coal ash ponds at Units 1 and 2. It is the only safe and guaranteed way to ensure the site is cleanup up properly and that Montana taxpayers are not saddled with hazardous waste, polluted groundwater and additional clean up costs in the future. Thanks.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

102. *Please require that the coal ash pond at Colstrip be excavated. Coal ash is currently in contact with the groundwater and represents a permanent threat to water quality in the watershed. I support Alternative 10 which requires an excavation at Ponds #1 and #2.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

103. *I support Alternative 10. Do clean up right the first time. Don't do cap in place. Thank you.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

104. *The ash ponds must be permanently cleaned up. It must be done now and done correctly. It is imperative (!) that the groundwater is protected. I approve Alternative 10 – fully excavate Colstrip Units 1 and 2 coal ash ponds. We cannot kick the can down the road! Fix it now please.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

105. *It's time for Montana to look ahead, to the jobs that could be created to backfill old coal mining leftovers. Let's clean up Colstrip as an example of how it can be done to protect our people – permanently. Fix it forever, do it right. We need coal ash excavated and lined landfill for safe storage. Let's look to future for long term good paying jobs.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

106. *I support Alternative 10 and ash that you fully excavate and remove the coal ash at Colstrip. Fix the problem once and for all instead of lazily allowing a future Superfund site to be created – all while created much needed jobs for the people of Rosebud County.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

107. *Disregard the desires of those who extract profit by sh\*tting in our nest. Do what is best for the environment for a change, it's in the title of your department.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

108. *Not doing a thorough cleanup job right the first time only and inevitably leads to more serious problems for future generations later on. Why would we leave poison in the groundwater and in our air? We in Livingston, an EPA Superfund site, still have a plume of diesel solvent floating on our aquifer. Do it right the first time.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

109. *6.7 million cubic yards sit right on the Armells Creek aquifers. It's your job to stop groundwater contamination permanently. You must therefore remove – excavate – coal ash from, Colstrip 1 and 2.*

*You must build a lined landfill for safe storage. The risk to Rosebud County residents is too great. Support Alternative 10.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*110. Please do the final clean up of the coal ash pond so we can protect the environment and the many lives of people affected, not to mention the animals and all living things in the area! Water in the future is of utmost importance and we should be improving the quality now!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*111. The time to excavate Colstrip is now not later. Later will be too late.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*112. Units 1 and 2 coal ash ponds sit on top aquifers that pollute Armells Creek. These ponds should be excavated in order to stop the ground H<sub>2</sub>O contamination. If these ponds are left, the decision has a heavy impact on ranchers, the tribes, and all residents of Rosebud County and taxpayers. Support Alternative 10.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

*113. The Montana Supreme Court ruled unanimously that Montana's constitutional right to a clean and healthful environment is a fundamental right. Protect our water and air!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*114. Capping these ponds really isn't sufficient to mitigate the toxic coal ash. The folks in Rosebud County deserve better. Please, please approve Alternative 10. Thank you for protecting Montana.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

115. *I grew up in North Dakota. They have developed national standards for reclamation of surface coal mines. Montana should develop the highest standards possible for its coal mine reclamation. Returning the surface to the best possible standard is the coal company's responsibility to the people of Montana. Substandard is not acceptable.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

116. *Please approve Alternative 10 and require Units 1 and 2 coal ash ponds to be fully excavated.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

117. *I am writing in support of Alternative 10 – requiring a dig out for ALL coal ash at 1 and 2 ponds. “Capping-in-place” is not a viable solution. We simply cannot allow coal ash to leach into groundwater. Do it right the first time and responsibly remove coal ash and permanently repair groundwater.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

118. *Please fully excavate the coal ash ponds for units one and two at Colstrip. I support voting for Alternative 10 to stop the pollution and protect our invaluable and vulnerable resource of clean water.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

119. *The cleanup on Units 1 and 2 at Colstrip needs to be comprehensive with all the coal ash removed from the ponds. Allowing any ash to remain creates an on-going risk that will leave Montana taxpayers to pay for what are business expenses that are the responsibility of the company. Cleanup jobs will also provide a lifeline to the workers in the community. I support Alternative 10.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

120. *I do support Alternative 10 which required a dig out for all coal ash at 1 and 2 ponds. I am very concerned for the pollution of the aquifers by 6.7 million cubic yards of toxic waste. Leaving coal ash*

*in place creates a long term risk for Rosebud County residents and taxpayers. Montanans will be left with future pollution costs. Responsible cleanup will create jobs for coal country.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*121. We support Alternative 10 as the best and only reasonable option. All of the coal ash at ponds 1 and 2 must be out in order to ensure safe groundwater now and in the future. Please protect our aquifers now!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*122. Alternative 10 is the only long term cleanup and closure plan for Units 1 and 2 coal ash ponds at Colstrip this fall. The many (6.7 million cubic yards) of toxic waste sitting directly on aquifers and polluting Armells Creek watershed must be fixed permanently by excavating all the storage ponds of coal ash in contact with the water table and building a lined landfill for safe storage. I support Alternative 10 which requires a dig out of all coal ash at the 1 and 2 ponds. Fix it forever!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*123. My son Joe Stoll died at age 32. He was a carpenter in Colstrip at the time when mining was at its peak. More than miners were affected by the mining. I am in favor of full clean-up. Joe died of pancreatic cancer.*

Response: Thank you for your comment. DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*124. Approve Alternative 10 and do the full cleanup right the first time. Montana taxpayers do not want to be paying for future pollution mitigation costs.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

125. *My wife and I lived and worked in Colstrip from 1982 thru 2016. I worked as a heavy equipment operator. I worked at the Western Energy coal mine for 26 years. I worked on building the ash ponds during the early 1980s. These ponds were never going to hold water. Montanans should not have to pay to clean up the ponds because of the deception and mistakes of the builders of these ponds. Do it right.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

126. *I was involved with reclamation work at Colstrip for nearly 20 years as a contractor to Western Energy and am intimately aware of the profound threat to groundwater posed by the coal ash ponds. Our constitution guarantees a clean and healthful environment. Therefore, the only alternative that satisfies our constitutional requirements and ensures is Alternative 10. It is the only alternative that will protect Armells Creek and groundwater.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

127. *Montana taxpayers should not be paying billionaires that own companies like Colstrip 1 and 2 to clean up coal ash ponds. Particularly coal ash ponds that are polluting our aquifers and Armells Creek watershed. Please DEQ support Alternative 10 which requires a dig out for ALL coal ash at Colstrip 1 and 2 ponds. Clean up that removes coal ash and permanently saves clean groundwater and provides long term good paying industrial jobs that require the skills of the existing work force.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

128. *The only way properly repair Colstrip's coal ash pollution is to entirely eradicate the coal ash ponds down into the natural groundwater level of Armells Creek. If that degree of total clean up is not completed, pollution from those ponds will adversely affect all downstream water user until total repair is achieved.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

129. *I strongly urge you to excavate the ponds and stop the pollution at Colstrip and to support Alternative 10. "Cap-in-place" is a weak cleanup strategy and will not protect the health and long term risk to Rosebud County residents. Responsible clean up that removes coal ash and permanently repairs groundwater is a huge job creator as well.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

130. *The only way to prevent future water source contamination and pollution is to implement Alternative 10. Remove the coal ash and put it in a safe lined landfill for long term safe storage. Protect the water, protect the people, protect the environment.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

131. *Citizens of MT have the constitutional right to clean air and water. As a steward of our environmental quality, you are obligated to protect our watersheds. The only cleanup plan for the Armells Creek watershed that stops further pollution is Alternative 10. Less expensive alternatives leave Rosebud County residents with continued groundwater contamination from coal ash. Long term cleanup of Colstrip Units 1 and 2 coal ash ponds needs to be the plan that permanently stops further pollution. Clean water plus good paying jobs is clearly a win-win solution. Choose Alternative 10.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

132. *Please extend your vision to consider further into the future and act to protect us from the almost certain eventual failure of the Colstrip coal ash ponds. Your mandate is to serve the people of Montana, which includes our grandchildren and their water.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

133. *Please approve Alternative 10 to fully excavate Colstrip Unit 1 and 2 coal ash ponds. This will create jobs for many years to come and will stop the groundwater contamination. Excavation is doing it right. Capping in place is not doing it right and will not protect the groundwater.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

134. *Montana has an unfortunate history of allowing those who mine her resources to avoid the remediation of the damage done. In this case, the people of the state are obligated – let's do it correctly.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

135. *I've lived in MT for over half of my life (I'm old now). I've seen and heard of the pollution left by mining, fracking, poisoning of water, clear cutting our timbered forests, and otherwise destroying the beautiful state of Montana. Companies and businesses such as oil companies or other such destructive organizations should be held to the clean up and reclamation they are required to do. Colstrip Units 1 and 2 should be excavated to keep coal ash from leaching into groundwater. Approve Alt. 10!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

136. *People get poisoned from pollutants in our air, water, and foods. Most of those pollutants are waste products from agriculture, energy and industrial enterprise, which result in a wide range of health problems. The costs of the consequent disease, lost wages, and deaths are borne by the citizens. Commercial polluters have long been avoiding the upfront costs of responsibly contending with their business wastes. It's high time they did so. In the case of the Colstrip Units 1 and 2 ash ponds, this can be achieved by the MT DEQ choosing Alternative 10 for the treatment option. It is the best option for DEQ's reputation, the taxpayers, neighbors, aquifers, and the future.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

137. *Having spent my life in Montana I've seen a history of corporations mining our resources, vanishing with the profits and leaving the mess for we the people. Please do not allow this to happen again. I urge you to support Option 10 and clean up the ash ponds for good!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

*138. I am writing in support of Alternative 10. Please don't compound the problem by capping in place. We owe it to current and future generations to do the right thing at Colstrip. It will also create much-needed jobs. Please, please don't cave to big energy in this. We need your courage.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*139. It is very important to the long term health of the Colstrip area and surrounding lands that a fully excavated clean up be done. Do not let Talen get away with less. The jobs will also be VERY important that a REAL clean up will generate.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*140. You absolutely need to dig up all the coal ash at ponds 1 and 2 so approve Alt 10. You cannot pollute the Armells Creek watershed. Cap-in-place, allowing permanent pollution is outrageous and against our environmental part of our Montana constitution. Clean up allowing jobs for eastern Montana which is critical in our economy with climate change and Covid.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*141. As a fifty-plus year resident of Helena, whose adult children and grandchildren also live in Montana, I am concerned about environmental issues we have the immediate capacity to fix. The coal ash ponds associated with Colstrip Units 1 and 2 are dangerous to aquifers and watersheds. Please eliminate the long term threat of these waste ponds by adopting "Alternate 10," a full dig out!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*142. Support Alternative 10!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*143. I'm a taxpayer who wants to ensure responsible Colstrip cleanup. I do not want to pay for the pollution that will result if the cleanup for the Colstrip Units 1 and 2 coal ash ponds is not done right. I support Alternative 10 which requires digging out all the coal ash in the ponds.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

*144. I am writing to express my support for Alternative 10 – i.e., dig out all coal ash as the Units 1 and 2 coal ash ponds at Colstrip. Groundwater contamination should be stopped permanently. The company's "cap-in-place" plan is unacceptable.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*145. Water is life itself. Cleanup the toxic ash ponds NOW before poison leaks into the water.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*146. I support Alternative 10. This is a responsible solution to completely clean up the toxic waste threatening ground water.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*147. Regarding Colstrip clean-up – Please support Alternative 10! It's important to do it right, that is – removing (excavating) the coal ash and removing it to a lined landfill.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

148. *I am concerned about the clean up of coal ash ponds at Colstrip. Please support Alternative 10 which requires dig-out for all coals ash at 1 and 2 ponds. This will be a permanent solution.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

149. *I support Alternative 10, requiring a dig-out for all coal ash at the 1 and 2 ponds. It should be done right and not left for future generations like my child's.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

150. *I've written comments on this issue several times already, but for this time, let me finally say that I support Alternative 10. We need to stop the pollution that is resorting from the Coal Ash Ponds. We need to make sure there is no contact with the aquifer. We need to correctly fix the problem and not just leave it in place. The 6.7 million cubic yards of waste will destroy the aquifer and the lives of the people in the state.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

151. *Colstrip is coming to the end of its too long life. The ash ponds must have the ash removed from contact with the local groundwater by full excavation. If this is not done, you will have left agriculture trying to survive on industrial leftovers – a far cry from what existed in 1973 when MPC arrived on the scene with great fanfare on many promises, one of which was lined ash ponds that would not leak. Keep the promise and excavate.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

152. *Please ensure clean water for generations to come. A robust clean up plan that provides “high and dry” secure storage of toxic coal ash is crucial to protect groundwater for local communities. “Cap in place” strategies allow for ongoing risk to (sic).*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

153. *I am in favor of removing 1 and 2 coal ash ponds and building a lined landfill. Our groundwater is too precious for short term solutions. The ash may have mercury, cadmium or arsenic. Do it right the first time and protect our water.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

Although the groundwater plume does not contain mercury, cadmium or arsenic, the list of contaminants determined to be a risk to human health and/or the environment are boron, sulfate, cobalt, manganese, selenium, and lithium.

*154. I support Alternative 10, there is no reason why the coal ash should be left in the ground which will potentially leak, contaminate the ground water and will cost the tax payers \$ to clean it up. Makes more sense to be proactive in preventing the pollution or water contamination.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

*155. Water pollution is seriously contaminating the aquifer and groundwater in the Armells Creek watershed. Climate collapse is affecting our life-giving water sources all over the Earth. It is essential that the Montana DEQ act responsibly and enable Alternative 10, excavating all coal ash at ponds 1 and 2 at Colstrip. Also, Colstrip workers need the jobs!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*156. I fully support Alternative 10 digging out all coal ash from Ponds 1 and 2. This coal ash is an environmental hazard to the Armells Creek watershed. Reclamation of these ponds will provide good, well paying jobs AND create a cleaner environment for residents of Colstrip.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*157. Please excavate the ponds and stop the pollution of the precious groundwater. Fix this forever, protect us taxpayers now, and our grandchildren in the future!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

158. *The best solution is the PERMANENT solution. Alternative 10 is the only responsible solution to Colstrip cleanup.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

159. *Approve Alternative 10.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

160. *I support Alternative 10 which requires a dig-out for all coal ash at Unit 1 and 2 ponds at Colstrip. If you just cap-in-place Montanans will be on the hook for future costs and responsible cleanup is a huge job creator.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

161. *Please support Rosebud County and do a permanent clean up. I want a clean environment and good paying jobs. Thank you!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

162. *Our aquifers need protection. Clean water and watersheds are essential to the future of Montana and Montana agriculture. I support Alternative 10. Permanently removing coal ash in contact with the water table. We have the opportunity to fix this now. Please rule in favor of Alternative 10.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

163. *Water is our most precious resource. You can't manufacture it. When our aquifers get polluted we are screwed and it has happened too many times. Look how dry it is...do not just put a bandaid on*

*this ash pond (a cap). Clean out this wound – do it right or it will just fester. Please no more groundwater contamination.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*164. I am 31 years old and plan on spending my life in MT. Please support Alternative 10 so that me and my family and all future Montanans have clean, coal-ash free water. I support permanently removing coal ash and building a lined landfill. Not only does this protect our Montana constitutional right to a clean environment, it will generate new jobs for folks in coal country who need them most. I support Montana and I support Rosebud County residents by encouraging the DEQ to support Alternative 10.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*165. It is imperative that Montana's water supply be protected by fully excavating Colstrip Units 1 and 2 coal ash ponds.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*166. Montana taxpayers have been cleaning up mine activities at great expense for a long time. The ash ponds at Colstrip have been polluting Montana waters for a long time, probably since they were constructed. I emphatically support Alternative 10. On top of cleaning up Montana water, Alternative 10 will create a lot of badly needed jobs in the Colstrip area.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*167. I support Alternative 10 concerning Colstrip Units 1 and 2.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

168. *You know water, safe and clean, supports the health of people, families, livestock and wildlife! I support Alternative 10, which require a dig-out for all coal ash at the 1 and 2 ponds. "cap-in-place" creates long term risks and future cost. It kicks the can down the road. Unfair!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

169. *Coal companies have made a lot of money in Montana. Now it's time for them to do a GOOD job cleaning up their ash ponds so that ZERO toxins go into our water.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

170. *Across our entire country a large amount of our water sources are contaminated so that the fish are not safe to eat, livestock cannot drink from the water, and most of all, it is unsafe for human consumption. Please completely repair the water sources that have been so polluted by the coal ash ponds that the area's water is unsafe. Remove the coal ash completely and stop any more toxic leak into the water.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

171. *I support Alternative 10. All coal ash should be removed at ponds 1 and 2. Now is the time to stop coal ash from leaching into the groundwater. An added benefit is that clean up would create many much needed jobs for the existing work force. Cap in place creates a long term, risk for Rosebud residents and taxpayers. Water is life!!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

172. *I want to encourage the MT DEQ to make the right decision re: ash pond cleanup and choose Alternative 10. Cap-in-place puts locals and taxpayers alike at unnecessary risk. Let's dig the materials up and play it safe and responsible. Alternative 10, please.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

173. *If MEPA had been properly applied when Colstrip was built, pollution from coal ash ponds would not now be an issue. These are "unexamined, unintended and unwanted consequences." Now DEQ is*

*evaluating and attempting to mitigate pollution that should never have occurred. DEQ must meet the standards set in the Montana Constitution IX. Environment and Natural Resources Section 1,(i). get on with it!*

Response: The Certificate of Environmental Compatibility and Public Need was issued for the Colstrip Power Plant under the Major Facility Siting Act after lengthy hearings and findings issued by the Montana Board of Natural Resources and Conservation. The relevant findings are set forth in DEQ's decision document approving the Integrated Remedial Report and selecting Alternative 10 for the Units 1 & 2 ponds. Some seepage from the ash disposal ponds was predicted, but in quantities that was not predicted to impair groundwater quality. Colstrip was required to monitor for impacts to groundwater from pond seepage and, if necessary, take more stringent measures up to and including installation of the synthetic liners, which Talen has installed. Seepage from the ash disposal ponds has been significantly greater than that predicted when the Certificate of Environmental Compatibility and Public Need was issued, contaminating groundwater. DEQ entered into the Administrative Order on Consent with Talen to enforce Montana's Water Quality Act and Major Facility Siting Act, which were enacted to implement the environmental provisions of the Montana Constitution, and do not allow for the pollution of state waters.

*174. As an educator, I remind my students daily to learn from mistakes and to do their best work. I recommend the DEQ follow the same guidance, by approving Alternative 10, so the Colstrip cleanup is completed by the best method known at this time to prevent future contamination and cleanup.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*175. It's real simple, do the right thing concerning the environment, we only get one chance when it comes to our planet!!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*176. I support Alternative 10. Cleanup needs to be done right. Stop the groundwater contamination. Cow Creek, other underground seams need to be returned to agriculture near to their original state. Dig out and dry. Jobs jobs jobs.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*177. Montana has a long history of mining disasters. I hope this won't be one more.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

178. *The responsible way is the only way and that is a complete clean-up by excavating the coal ash and will then stay forever the groundwater contamination. And it will provide any long-term jobs which are badly needed, while protecting the water for so many people from lots of backgrounds.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

179. *Please make sure your final decision is a permanent fix. That means removing the coal ash and placing it in a lined landfill for storage. I support Alternative 10. This is best for the environment and best for jobs.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

180. *If we are to eliminate the burning of fossil fuels (which we must, if we are to survive) it is imperative we force all energy companies (Northwest Energy included) to clean-up their coal ash ponds, reimburse localities for poisoning their groundwater aquifers and shut their plants down forever.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

181. *I support Alternative 10 because it does the clean up the right way and by doing so creates jobs at a time that community needs them most.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

182. *Excavate the ponds and stop the pollution. Support Alternative 10. Fix it forever and protect taxpayers. Permanent cleanup creates jobs when coal country needs them the most.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*183. I strongly support the comprehensive permanent cleanup and restoration represented by Alternative 10. Get the restoration done right and assure that all owners are fully bonded to complete the project and fully cover their responsibilities. Monitor the project with due diligence and dedication, enforce completion of the project, to assure full and permanent restoration and permanent protection of the aquifers and land!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

*184. Long ago, I was an attorney for the former Dept. of Health and Environmental Sciences and have had an understandable particular concern about implementation of this state's laws to protect the environment and human health. When there are options, the enforcement choice should always be the one most protective of the state's water, in this case and, in the case of Colstrip, agriculture and human health, and option/alternative 10 is that proper choice. PLEASE!!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*185. Power customers pay for their consumption when they pay their bill. They should not have to pay more if taxpayer money is used to clean up the company's mess later on. I think the cap-in-place option is too risky.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

*186. I totally support Alternative 10. The decision to permanently clean up Colstrip's Ponds 1 and 2 is imperative and important as it will benefit the environment, the land of the ranchers, the taxpayers, and the tribal communities. For those worried about being jobless, there is a guarantee of a long-term/good paying job with the Colstrip Ponds Clean-up. Decide YES on Alternative 10.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the

Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*187. I may be too late for inclusion in the comment period on this issue, but I am extremely concerned that the clean-up work to restore Colstrip to as close as we can to natural condition – soil, water, air – will be done and Montana can look to that restoration as proof of what our state will give – will proudly achieve – to recover this portion of the land we needed and despoiled for our economy. We can clean up after ourselves, so let's do it. We can do it.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. The former footprint of the ponds will be reclaimed to natural conditions.

*188. I spoke at a public hearing at MSU accepting comments about the proposed Colstrip ash ponds. As I recall, I was the only citizen to predict the pond will fail. I hope the cleanup DEQ choses will recognize and correct the flaws inherent in the current ponds. The cleanup shall insure groundwater is no longer impacted. A robust monitoring system shall insure compliance. Alternative 10 appears to be a good start. I look forward to seeing the final details.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Additional details on the remedy will be provided in the Remedial Design Work Plans.

*189. Though we live in Western Montana, we have been aware of the Colstrip Ponds and their negative effects in the environment for decades. The ash ponds do indeed need to be cleaned up for all the reasons presented by the state Department for years. Please get on with it!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*190. We support Alternative 10 for Colstrip cleanup. Protect taxpayers. Make them clean it up!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

*191. I support Alternative 10. Dig out all coal ash at 1 and 2 ponds. This fixes the problem forever. It means we taxpayers won't be on the hook later. It will create jobs!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

192. *I support Alternative 10. It is the best method to stop groundwater contamination permanently. Fix it forever and protect us taxpayers. A permanent cleanup creates jobs.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

193. *It is unthinkable that we Montanans would even consider a Colstrip clean-up plan that would leave a lasting legacy of polluted groundwater. (Like Zortman and Landusky pollution which Montana taxpayers continue to pay to abate, generation after generation, long after those doing the polluting and those making the decisions about the pollution are gone.) The only sane solution now, since it was not done right the first time, is to completely dig up ALL the polluting ash at Colstrip 1 and 2 ponds and build an entirely new, lined disposal site that will never allow the ash to come into contact with groundwater again. **Alternative 10 is the only real clean-up plan.** All the other alternatives are just band-aids. As an added and important benefit, Alternative 10 will create a significant number of well-paying jobs in an area that very much needs them.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

194. *Please ensure that the current owners of Colstrip 1 and 2 clean it up once and for all so that my children as residents of Montana, will not be stuck with a tox hill to clean it up sometime in the future. You have it in your power to choose Alternative 10. Please do so.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

195. *Please do the right thing for public health and the environment by requiring NWE to take these actions: 1) excavate the ponds and stop the pollution – I support Alt. #10; 2) Don't allow "cap-in-place" – this doesn't clean anything up; it only keeps the contaminants in place and we'll pay later! 3) Cleaning up Colstrip Ponds (Alt. #10) will create good jobs!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

196. *I urge you to choose Alternative 10 for the cleanup of Colstrip Units 1 & 2 coal ash ponds. The only way to guarantee the long-term safe and effective cleanup of these ponds is to require the power plant owners to excavate the ash and move it to a state-of-the-art landfill far above the groundwater table. Furthermore, you should require an adequate bond for the full cleanup now in order to protect Montana taxpayers later. Let's get this right the first time! [received 2]*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

197. *I urge you to select Alternative 10 in the Colstrip Units 1& 2 Remedy Evaluation Report, Part 2. The only proven way to control future releases of heavy metals and sulfates is to physically dig up the ponds. Excavating the coal ash is a straightforward solution that removes the ash from the groundwater, eliminating the source of pollution. It is the only permanent fix to the 367 gallons of polluted water that leak every minute from the 837-acre coal ash pond complexes outside the power*

*plant. Simply capping the ponds in place will not work because the bottom 10-30 feet of the 1& 2 ponds are submerged in groundwater. No matter what liner is beneath the ponds, water will run through the bottom layers of coal ash, pick up heavy metals and sulfates, and spread these pollutants out into the aquifer. Storage of the excavated coal ash must be in a new, lined landfill sited above the water table. Your decision will impact the people of Colstrip, local agriculture, power plant workers, and taxpayers around the state who have been overly burdened with cleaning up pollution from defunct companies. I also would advocate for a bond of \$600 million to cover the costs of a large-scale excavation project and protect future ratepayers in Montana from financing one more cleanup.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

Talen is required to submit financial assurance for the selected remedy within 60 days of DEQ's approval or conditional approval of the Remedy Evaluation Report. DEQ has calculated financial assurance for the amount it would cost DEQ to perform Alternative 10 in the event Talen was no longer a viable party. Financial Assurance is reviewed yearly and adjusted as necessary. Financial Assurance for Alternative 10 was calculated in 2020 dollars with the 3% discount rate in the amount of \$285,438,000.00 and without the 3% discount rate in the amount of \$339,566,484.28. Talen calculated the total estimated cost for Alternative 10 in 2020 dollars without the 3% discount rate in the amount of \$191,054,000. Although Talen's estimate has been determined to be accurate if Talen performs the work, the financial assurance is designed to cover the costs of the remedy in the event that Talen were unable to perform the work and remedy completion was left to the State. Therefore, the financial assurance reflects the estimated cost to the State to implement the selected alternative based on standard industry costs. The details of the independent financial assurance calculation are provided in as an appendix to the Decision Document.

*198. I am concerned about the Colstrip Units 1&2 Remedy Evaluation Report, Part 2. The Department of Environmental Quality needs to require all coal ash at the Units 1&2 ponds at Colstrip be dug up and moved to a site above the water table and sealed from water run off to protect Southeastern Montana from becoming a water poison nightmare. I keep thinking that this is so much like what happened in Butte. Not only are those folks having to live with a mess created by an industrial power, the problem has gotten worse over time as other environmental factors have come into play. I raised my children in Eastern Montana and remember situations where people expressed the belief that the land there was expendable. It is not. The water in that country is very valuable and is a critical resource to the residents. The toxic mess is already there and I believe that Alternative 10 is the best solution.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*199. I'm writing to request Montana DEQ select Alternative 10 in the Colstrip Units 1&2 Remedy Evaluation Report, Part 2. As a taxpayer in Montana, I don't want my tax dollars to go to subsidizing*

*a corporation's clean up of old power plants! Please approve Alternative 10 and require the Colstrip Power Plant owners to clean up what is their responsibility to do!*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Under the AOC, the Colstrip operator (Talen Montana) is responsible for the cleanup and is required to provide financial assurance to ensure the remedy costs are not left to the taxpayers.

*200. I'm writing to request a full and environmentally safe cleanup for Colstrip. Please know that thousands of citizens are weary of half-assed solutions that lead to half-assed cleanup. We are done with toxic waste and the policies that lead to it. Please do your part to refresh the Colstrip area, making it as pristine as possible. Plan on making it so fabulous that you'd be happy to have it in your grandkids' back yard.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

*201. Excavating the Colstrip 1&2 ash ponds and placing that ash in a lined landfill will accomplish two important things: (1) it will take the toxic ash out of contact with ground water, and (2) it will create more jobs. Please adopt Alternative 10.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds.

In the report, Talen estimated that Alternative 10 would create approximately 130 FTE jobs over the 12-year construction duration.

*202. I see nothing in the plan that injects lake water in the west of my trailer court, and pumps it through to the east to clean up the pollutants under my 26 acre court. Furthermore, the mine keeps polluting Armells creek trailer court I own. The cleanup plan is a joke.*

Response: DEQ has selected Alternative 10 (excavation of coal ash to a new, lined landfill above the water table) as the remedy that will be implemented for the Units 1&2 ponds. Based on the location of the trailer court, this area would be covered in the Plant Site Remedy Evaluation Report. DEQ approved this report in December 2018; the remedy consists of a freshwater flushing/groundwater capture system around the Plant Site Area. DEQ would be happy to discuss the details of the remedy for this area, including locations of the wells close to the trailer court; please contact [sedinberg@mt.gov](mailto:sedinberg@mt.gov) with any questions.

*203. I'm writing to request Montana DEQ seriously consider any recommendations from company experts.*

*DEQ must avoid Environmental Extremism at all costs. Montana has a long history of logical land management by our industries within the framework of the time they served. We cannot tolerate*

*Extremist actions.*

*Please deny Alternative 10 and remember the murders by Environmental Extremists of*

- Eugene Buffin by intense harassment at Coeur d'Alene, Idaho*
- Thomas P. Fortino by intense harassment at Rochester, New York*
- Donald Harkins by poisoning at Portland, Oregon*

*Keep in mind that EPA Officer Earl Liverman at Coeur d'Alene, Idaho deliberately misstated the chemical persistence of cyanide, knowing that the public would not research the facts. You should know all the issues before any action.*

Response: Thank you for your comment. DEQ has selected Alternative 10 based on a technical analysis of information provided by Talen in the Integrated Remedy Report.