'Future residents will likely be unaware:' Hydrogeologist warns mine could pollute water

Hannah Grover, Farmington Daily Times Published 1:02 p.m. MT Nov. 16, 2019

Public Service Company of New Mexico responded to New Energy Economy's claims

WATERFLOW — New Energy Economy is alleging the San Juan Generating Station and San Juan Mine have contaminated water, continue to impact it and may pollute the San Juan River in the future.

The environmental and consumer advocacy group based out of Santa Fe visited both the power plant and mine last month. It then filed multiple documents with the New Mexico Public Regulation Commission, including testimony from a hired expert and test results from a water sample taken from an arroyo outside of the mine and generating station properties.

Executive Director Mariel Nanasi said future studies are needed to determine the extent of contamination from the power plant and mine, and who should pay for the cleanup.

More: Environmental advocacy group looks for signs of contamination while touring power plant (/story/news/local/2019/10/29/san-juan-generating-station-visit-new-energy-economy-shumway-arroyo/2490047001/)

“If (Public Service Company of New Mexico) did nothing wrong, then maybe the ratepayers should pay for it,” Nanasi said, referring to the power plant’s majority owner.

However, Nanasi said if improper practices have led to contamination shareholders should pay for the reclamation and decommissioning at the power plant.

The San Juan Generating Station is pictured, Thursday, Nov. 14, 2019, from the San Juan Mine. *(Photo: Hannah Grover/The Daily Times)*

NEE expert critical of coal ash disposal

Hydrogeologist Mark Hutson is working with New Energy Economy to evaluate where contamination has occurred and where it could potentially occur in the future.

Hutson said in his testimony that his biggest concern comes from how coal combustion residuals, such as fly ash, are disposed of in open pits at San Juan Mine — owned by Westmoreland Coal Company. These pits are left over from when the San Juan Mine was a surface mine rather than an underground operation.

The coal combustion residuals are covered with at least 10 feet of spoils — layers taken off during surface mining to reach coal. The spoils are placed on top of them, and top soil is placed over the spoils.

Coal combustion residuals like fly ash are placed inside open pits left over from when the San Juan Mine was a surface mine. These coal combustion residuals can be seen Thursday, Nov. 14, 2019, in a part of the Pinon Pit at San Juan Mine that will soon be reclaimed. *(Photo: Hannah Grover/The Daily Times)*

San Juan Mine Environmental Engineer Dan Mumm said the spoils tend to be high in clay content, making it unlikely for much water to seep down to the coal combustion residuals inside the pit following reclamation.

PNM spokesman Raymond Sandoval said in an email that this practice is approved and also heavily regulated by both state and federal agencies, including the mining and mineral division of New Mexico Energy, Minerals and Natural Resources Department and the federal Office of Surface Mining, Reclamation and Enforcement.

"The mine pits contain many millions of tons of CCR, with more being added each day," Hutson said.

More: How does ozone pollution in San Juan County compare with neighboring counties? (/story/news/2019/04/29/san-juan-county-exceeding-ozone-standards-american-lung-association/3617868002/)

Human activities, such as oil and gas development, have drawn down the natural groundwater levels, according to a 2017 U.S. Geological Survey analysis. (https://pubs.usgs.gov/sir/2017/5155/sir20175155.pdf) It states the levels will rise when oil and gas extraction ends.

"Of course, by the time the water levels in the pits rise sufficiently to allow outward flow and contamination has time to migrate into the arroyos, bonds will have been released, monitoring will have been long ago discontinued and operation of groundwater recovery systems will be long ceased," Hutson continued.

A pronghorn antelope stands in a reclaimed area at the San Juan Mine, Thursday, Oct. 14, 2019, in Waterflow. *(Photo: Hannah Grover/The Daily Times)*

Hutson referred to money set aside in bonds when mining began that is released in phases as reclamation is completed.

"Future residents of the area will likely be unaware that the CCR-related contaminants are migrating downgradient through the arroyos toward discharge in the San Juan River," he said.

According to the USGS report, it will take more than 1,300 years for that contamination to reach the Shumway Arroyo's watershed. About two centuries later, those particles will reach the San Juan River's watershed and, about 2,400 years after the San Juan Mine closes, the metals from the coal combustion residuals could enter the San Juan River.

“There needs to be monitoring, continuous monitoring ... to protect people’s health and welfare,” Nanasi said.

NEE alleges water from arroyo shows coal impacts

Hutson’s testimony includes the results from a water sample taken from a nearby arroyo last month.

“The water can be characterized as a high (total dissolved solids) water with elevated concentrations of sulfate, sodium, chloride, born and lithium,” he said in the testimony. “This suite of parameters is often found at elevated concentrations on and around coal ash impacted facilities.”

Contamination geologist Mark Hutson takes water samples, Monday, Oct. 28, 2019, from the Shumway Arroyo near the San Juan Generating Station to test for metals associated with coal combustion. *(Photo: Sam Ribakoff/Daily Times)*

After Hutson took his sample, he filled the sample bottle for consultants hired by PNM. Sandoval said the sample PNM collected did not exceed relevant state water standards.

“New Mexico has no applicable surface water standards for (total dissolved solids), sulfate, sodium, chloride, or lithium for this surface water,” he said. “Ground and surface water in the area of the plant has been found to be naturally poor in quality as a result of area geology. It is therefore inaccurate to characterize the sample as having ‘elevated concentrations’ of these constituents.”

One of the many wells monitoring ground water quality is pictured, Thursday, Nov. 14, 2019, at the San Juan Mine. *(Photo: Hannah Grover/The Daily Times)*

Mumm agreed with Sandoval’s statement and said natural groundwater in the area can include high levels of total dissolved solids.

Sandoval further stated that multiple samples would be needed to draw any valid conclusions about the potential impact of coal ash. He said those samples would have to look at water quality both upstream of the mine and power plant and downstream. In addition, he said this would have to be done over a period of time to yield statistically significant results.

Closed evaporation ponds create concern

Hutson also highlighted a nitrate investigation report that found three monitoring wells indicating leaks from the north evaporation pond prior to it being closed. However, Hutson said there is no indication of testing to verify that the soil cap over the pond is working and the contamination plume is not continuing to grow.

Mariel Nanasi, Mark Hutson and Norman Norvelle look at a sealed pond, Monday, Oct. 28, 2019, at San Juan Generating Station in Waterflow. *(Photo: Hannah Grover/The Daily Times)*

Sandoval said monitoring of nitrate concentrations in the groundwater impacted by the north evaporation pond occurs on a quarterly basis, and results are reported to the New Mexico Environment Department.

“Monitoring results indicate that nitrate concentrations in these wells are generally decreasing over time,” Sandoval said.

Nanasi highlights New Mexico’s legacy of pollution

Nanasi said one reason the state should do a detailed study of contamination sources and causes is because the San Juan Generating Station is the first coal-fired power plant she is aware of closing in New Mexico.

Water pumped from the San Juan Mine flows from a sedimentation basin into a pond, Thursday, Nov. 14, 2019. The water is mainly the result of spraying along the underground mine to reduce dust levels, according to Dan Mumm, environmental engineer at the mine. *(Photo: Hannah Grover/The Daily Times)*

“We know that there’s a legacy in New Mexico specifically of waste just being dumped and left,” she said, adding that the waste could impact human health.

More: Uranium miner: 'We were faced with dangers every day and not knowing the consequences' (/story/news/local/navajo-nation/2019/10/04/u-s-rep-

grijalva-hears-health-effects-uranium-mining-forum/3864844002/)

Nanasi highlighted the uranium mines as an example of that legacy and said New Mexico should not rely on industries like coal and nuclear that result in waste.

“This is why we wanted to close San Juan much earlier,” she said.

Hannah Grover covers government for The Daily Times. She can be reached at 505-564-4652 or via email at hgrover@daily-times.com. (mailto:hgrover@daily-times.com)

***Support local journalism** with a digital subscription: http://bit.ly/2I6TU0e (http://bit.ly/2I6TU0e)*

Read or Share this story: https://www.daily-times.com/story/news/local/2019/11/16/san-juan-generating-station-new-energy-economy-concerns/4196581002/