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Study: Lab Seepage In River

By Adam Rankin

Journal Northern Bureau

A pair of watchdog organizations say they have discovered the first conclusive evidence that very low-level radioactive contamination from Los Alamos National Laboratory is seeping into the Rio Grande.

In a report released today, Concerned Citizens for Nuclear Safety and Washington state-based The RadioActivist Campaign say they are confident that low levels of radioactive cesium-137 they detected along the Rio Grande came from LANL.

The report indicates no immediate human health risk attributable to the low levels of cesium. Cesium-137 is a by-product of nuclear fission and a carcinogen. It is present globally in small concentrations from atmospheric nuclear testing.

Samples taken in 2002 and 2003 from aquatic moss beside a spring in Pajarito Canyon and along Pajarito Stream showed levels of cesium-137 at 0.01 to 6 picocuries per kilogram, the groups reported. Samples of water showed cesium levels 200 to 500 times lower, about 0.01 to 0.1 picocuries per kilogram, the report states.

The federal limit for cesium in drinking water is 200 picocuries per kilogram.

Minimal risk

LANL officials, while pledging to follow up on the findings, strongly contest the validity of the report, which relies heavily on the strength of only two samples. They argue that more conclusive evidence is necessary to make such strong allegations, considering the widespread presence of cesium.

"The good news is, as (the) report points out, the alleged detections are far, far below anything that could be considered a risk to human health or the environment," LANL spokesman James Rickman said. "The bad news is that the report's conclusions are highly questionable for a number of reasons."

The report argues that the cesium migrated through ground water from LANL's mesa-top location to the spring, where it was absorbed and concentrated by the moss.

Jon Goldstein, a spokesman for the New Mexico Environment Department, said the state agency has no data to either confirm or deny the report's findings.

"We do have data of radioactive materials in runoff," he said. "This may be linked with that."

He said NMED tested the water in Pajarito Canyon and detected no cesium but would do the tests again.

"Anytime there is a report like this, we pay attention," he said.

Report disputed

The report, titled "Early Warning: A Radioactive Rio Grande," was paid for with money from a \$6 million settlement with the Department of Energy maintained as a grant called the Citizen's Monitoring and Technical Assessment Fund.

Norm Buske, the scientist and founder of TRAC who made the measurements, says he

is confident he has ruled out all other possible sources for the cesium.

"This is probably the first report of waste from LANL entering the river from the ground water," Buske said. The report functions as an early warning for regulatory agencies and LANL to take action now, before the waste stream becomes unmanageable, he added.

"The public and other agencies should get involved to head this off at the pass, as it were, before we really have a problem," Buske said.

LANL officials contend that the strength of the report fails with scrutiny.

Rickman said numerous scientific studies have shown that cesium does not move readily through ground water because it sticks to rocks and soils, calling into question the likelihood that cesium would migrate several miles through ground water.

Rickman also said the concentrations of cesium cited by the report are far below detection limits of analytical methods at independent laboratories used by LANL.

"The fact that TRAC has cited such magically low detections as fact makes the report and its conclusions suspect," he said.

Common element

Rickman also said one of the strongest cases against the report is that cesium-137 is a common radioactive element that was distributed globally during atmospheric nuclear tests.

The moss likely absorbed and concentrated cesium from worldwide fallout contained in dust, he said, not ground water.

That argument is supported by the fact that soils around northern New Mexico have levels of cesium from worldwide fallout of about 0.6 to 1.7 picocuries per gram, which is much higher than the levels detected in the moss, he said.

When converted to grams, the moss measurements made by Buske have 0.0024 to 0.0058 picocuries per gram.

But Buske said he carefully designed the sampling to take all those arguments into account, so they can be discounted.

"It is sort of a standard argument that DOE uses," he said. "It is not relevant; they are obfuscating."

Joni Arends, with Concerned Citizens for Nuclear Safety, said she hopes the results spur more studies.

"This citizen's monitoring initiative indicates that LANL must be held responsible for its past and current waste sources," she said.

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Groups Detect Cesium in Area Spring

Radioactivity levels are well below limits and do not pose threat to human health

By JEFF TOLLEFSON | The New Mexican

Nuclear watchdog groups today reported finding trace levels of radioactivity in a spring

below White Rock, citing the results as evidence that groundwater contaminated by nuclear work at Los Alamos National Laboratory already is entering into the Rio Grande.

While the levels of cesium-137 are well below regulatory limits and do not pose a danger to human health, the report offers an "early warning" of the potential impacts of groundwater contamination from the lab, according to The Radioactivist Campaign and Concerned Citizens for Nuclear Safety. Both groups said the issue needs further investigation.

A Los Alamos lab spokesman called the results "highly questionable" and said, even if verified, the alleged presence of cesium in the spring could be explained by worldwide fallout from historical nuclear testing rather than groundwater contamination by the lab itself. Cesium is byproduct of nuclear fission.

The New Mexico Environment Department could not provide any insights regarding the report, but spokesman Jon Goldstein said the department would follow up with its own analysis. Although cesium has turned up in groundwater below the lab, Goldstein said, the state has never found it in springs along the Rio Grande.

"But that doesn't mean these findings aren't true," he said. "We plan to go up there, do our own sampling and see what we find."

Plutonium and other contaminants have been found in surface waters flowing into the Rio Grande, but the lab's computer models indicate that it could take thousands of years for groundwater contamination to percolate into the Rio Grande.

The report isn't the first to question the lab's assumptions regarding the spread of groundwater contamination.

The Environment Department has cited the presence of perchlorate in similar springs along the Rio Grande as possible evidence that groundwater could move much faster than predicted by lab models. Perchlorate is used in explosives, rocket fuel and other industrial processes and was present until recently in discharges from the lab's liquid-radioactive-waste treatment plant.

The perchlorate detections also remain unresolved, although state and lab tests have shown that minute levels of perchlorate contamination could be common in the region, due to unknown sources.

The Radioactivist Campaign and Concerned Citizens timed their report to coincide with the quarterly meeting of the lab's Groundwater Protection Program, which takes place today at the Courtyard by Marriott in Santa Fe. The regular meeting takes place from 8:30 a.m. to 5 p.m.; presentations for the public are scheduled for 5:15 p.m. and 6:30 p.m.