COMMITTEE TO BRIDGE THE GAP

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Leakage Outside Nevada Waste Site Found to Be Far More Widespread Than Previously Thought; Situation Worsening

Findings at Twin Facility Further Proof Ward Valley Unsafe, Critics Say

A new study of leakage at a Nevada "low-level" radioactive waste dump shows offsite cont2nlination has spread much further and faster than previously thought, undermining claims that nuclear wastes would not leak from the similar dump proposed for Ward Valley, California. U.S. Geological Survey (USGS) scientists have released a new study showing that radioactivity from the dump, located near Beatty, Nevada, has mushroomed out of the dump and contaminated every part of the 15-acre offsite area studied. The researchers also found that radioactivity levels deep beneath the surface continue to worsen, and that even the air above vegetation growing nearby is contaminated, apparently from vegetation drawing up radioactivity from the soil and releasing it to the air.

The findings support the warnings of Ward Valley critics who have voiced skepticism about claims made by the proposed dump operator ("US Ecology") that radioactivity would not migrate out of the unlined trenches for thousands of years. The Beatty dump, long held out as a "good analog" for Ward Valley by proponents, was run by the same operator, using similar design, and is located in a similar geologic and climatic setting.

'Ward Valley dump supporters have been proven wrong again," said Dr. Joseph Lyou, executive director of the Committee to Bridge the Gap, a public interest group opposed to the project, "Their house of cards has toppled. US Ecology said desert ecosystems would prevent radioactive migration for eons, yet its own Nevada dump has leaked in just decades."

Among the key findings of the new study:

- The entire offsite study area--the size of more than a dozen football fields-- is contaminated. Every one of the nearly 60 grid points sampled throughout the 15-acre offsite area studied had elevated radioactivity levels. Previously, it had been argued that contamination was limited to a few isolated spots.

- Radioactivity levels are highest near the dump, clearly indicating the contamination is leaking Out of the dump and migrating offsite.

- Radioactivity levels were far in excess of what could be explained by fallout or background.

- Actual migration rates were vastly faster than predicted by any models relied upon by proponents of deserts nuclear dumps.

- There has been both rapid lateral migration and rapid downward migration, apparently along preferential pathways, something that Ward Valley critics had predicted but proponents had denied would be possible.

- Contamination has worsened over time at locations deep beneath the surface.

- Near-surface contamination levels decreased with depth, indicating downward movement and contradicting claims by dump proponents that moisture movement was upward in such locations.
- Air near desert vegetation was also contaminated, indicating the vegetation was drawing up contaminated moisture from the soil and releasing the radioactivity to the atmosphere.

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- Tritium levels in the majority of the samples of soil pore water exceeded current safe drinking water standards (there are currently no binding limits for soil contamination).

The larger concern is how much worse the situation will get over time. The measurements reported by USGS are for tritium, a faster-moving and more benign radioisotope than much of the material buried at Beatty. Tritium is generally found as the leading edge of contaminant plumes, with more dangerous but somewhat slower-moving isotopes following behind. “If tritium has already migrated offsite, far more dangerous and longer-lived radionuclides such as plutonium may not be far behind,” said Dr. Lyou. US Ecology buried 50 pounds of plutonium at the Beatty “low-level” waste dump.

‘Ward Valley proponents have claimed radioactive contaminants cannot move quickly in desert ecosystems,” said Lyou. ‘When your theories say one thing and the facts say another, it’s time to re-think going forward with a project based on disproven theories.”

The newly discovered extent of the contamination, and the fact that radioactivity levels have increased at depth, also put to rest the explanation put forward by Ward Valley proponents for the more limited contamination found earlier. Ward Valley proponents had claimed that previous findings at Beatty could be explained by the disposal of liquid wastes, which they say would be prohibited at Ward Valley. They fail to mention that such practices were also prohibited at Beatty. Until caught by regulators in 1976, US Ecology, dumped liquid wastes, in gross violation of its license. “The illegal liquid dumping at Beatty ended more than 20 years ago, yet offsite contamination levels are still rising,” said Dr. Lyou, “Obviously, something else is driving the contamination plume.”

(Relatively small amounts of liquid were dumped at Beatty, compared to the amount of rainfall that fell into the Beatty trenches. US Ecology had previously claimed that the soils were so dry that neither the liquids in the waste nor the much larger amounts of water from rainfall could migrate at the site, that the soil would absorb all moisture like a sponge and immobilize it. If small amounts of liquid dumping could cause the offsite migration observed at Beatty, then the far greater amount of rain that falls on the Beatty trenches — and would fall on the similar unlined trenches at Ward Valley — would cause failure at either site. “The new data support what we have said all along. Rainwater penetrates the soil at desert radioactive waste dumps and can carry dissolved radioactivity quickly and far,” said Dr. Lyou.)

“The Wilson Administration contends that radioactivity can’t move in desert environments,” Dr. Lyou said, “The facts show otherwise. The time has come for dump proponents to admit their mistake and abandon this foolhardy project.”

Earlier research has shown that radioactive contamination at Beatty has reached groundwater, approximately *375* feet beneath the site. The proposed Ward Valley dump Sits atop a large, pristine aquifer, with several potential hydrologic pathways to the nearby Colorado River, the main water source for much of the Southwestern United States.

According to the Congressional Research Service, the majority of radioactive waste to go to Ward Valley would be irradiated nuclear reactor components, with medical and academic waste accounting for less than 1% of the total. No radioactive waste is “piling up” in California—every waste generator has access to existing disposal sites, at lower cost than predicted for Ward Valley. Reactor wastes such as plutonium, strontium, and cesium, with hazardous lives m the hundreds to many thousands of years, would be placed in the unlined trenches at Ward Valley, with monitoring for only a hundred years after dump closure. These are among the most toxic substances on earth.

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