

Death Metal

Uranium mining may start in Oregon

The atomic bomb that exploded above Hiroshima was powered by splitting 855 grams of uranium. The Fukushima nuclear facility that melted down after a tsunami struck the coast of Japan in March was powered by uranium. The Columbia Generating Station, the only commercially operating nuclear power plant in the Northwest, which is undergoing review by the Nuclear Regulatory Commission for three apparent operator-error incidents, is powered by uranium.

Uranium is all around us, and it's not just in nuclear bombs and power plants. The radioactive element is found in water and in the ground. And it's been found in Oregon in dense enough concentrations that an Australian company, Energy Ventures, and its subsidiary, Oregon Energy, wants to mine it. Uranium mining releases radon, a radioactive cancer-causing gas, from the ground into the atmosphere, according to the Environmental Protection Agency.

Lachlan Reynolds, Oregon Energy's president, says the company's plan is to supply uranium to the domestic U.S. market to provide nuclear power. Conveniently, a French company is working towards building a uranium enrichment plant in Idaho Falls, about seven hours from the planned mine.

Another Australian company, Oregon Resources Corp., had its grand opening for a commercial chromite open-pit mine in the coastal foothills south of Coos Bay on Sept. 27, despite neighbors' concerns the mine could release toxic hexavalent chromium. Some speculate that the approval of permits for the chromite mine has signaled to companies that Oregon is open to even more mining. Oregon hasn't had a full-scale uranium mine since the 1960s. The question is whether the cost to Oregon is worth having one now.

Like gold mining, uranium mining falls under the aegis of the 1872 General Mining Law that considers hardrock mining the highest and best use of the public's land. Chris Hansen of the Oregon Natural Desert Association (ONDA) says

when it comes to the General Mining Law the issue is usually not whether there will be a mine, but how bad the mine will be.

Nuclear power, post the Fukushima disaster, hasn't exactly been the most popular energy source and uranium prices dropped after the accident, according to market reports. It's recently been going for about \$54 a pound. But the results of Oregon Energy's test drilling at the Aurora uranium deposit in southeast Oregon has encouraged the company to go ahead with its plans for an open-pit mine at the site, and Reynolds says Oregon Energy is willing to drop \$200 million to establish the mine.

The deposit was first discovered in the 1970s, Reynolds says. The company acquired the rights to the deposit from Uranium One for \$2 million in cash, according to the Energy Ventures website. The proposed uranium mine is in Malheur County, a couple miles north of the Nevada border and about nine miles west of the town of McDermitt, near the Fort McDermitt Paiute and Shoshone Tribes' reservation. Reynolds says the company has talked with "the local Indian reservation. Our impression is that they are very interested in the job possibilities." He says he expects the mining to last from eight to 12 years.

Gary Lynch, assistant director of the Mineral Land Regulation and Reclamation Program of Oregon's Department of Geology and Natural Resources (DOGAMI) says Oregon Energy presented its proposal at a public meeting of the DOGAMI governing board on Sept. 13 but the company has not yet submitted an application for a mine. Lynch says the project is "not close to turning the shovel."

The Aurora project consists of 133 contiguous, unpatented lode claims covering an area of approximately almost 3,000 acres, according to Energy Ventures documents. The claims are on public, Bureau of Land Management, land. A 2005 analysis of the deposit says the company only pays \$125 per claim a year to maintain its rights to them. Under the

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Oregon Energy LLC

General Mining Law, the public will not get royalties from the uranium mine.

The mine area, according to Hansen, is "absolutely core sage grouse habitat." Sage grouse have been in decline in Oregon. According to ONDA, there is warrant to list the rapidly disappearing sage grouse under the Endangered Species Act, but thanks to politics and a backlog with the U.S. Fish and Wildlife Service, the sage grouse is on a waiting list with 250 other species. Two drainages of Cottonwood and McDermitt Creeks go through the site, and Fish and Wildlife documents show that the creeks or their tributaries are endangered species listed Lahontan cutthroat trout habitat.

Reynolds says, "It is a full requirement of our permitting process to go through a remediation plan." But both Reynolds and DOGAMI say it is too early in the process to say how that will be done. But Reynolds says, "Clearly if we can't make the conditions of our permit, can't proceed." He adds, "We believe the current laws in Oregon are more than adequate."

Vaughn Balzer, a reclamation specialist at DOGAMI, says that in open pit mining the top layer of earth, which in mining is referred to as the "overburden," is scraped off to get to the ore underneath. This creates a problem of what to do with all that earth. "It generally doesn't go back into the open pit," Balzer says.

Oregon's past history with uranium mines hasn't been positive. Two mines, Lucky Lass and White King, were mined in the 1950s and '60s and then abandoned.

The sites were declared Superfund sites due to contamination with arsenic and radionuclides, and it has cost about \$7.9 million to clean them up.

Reynolds says not only is the proposed mine in a historic mining area, but "uranium is naturally emitting radon all the time." At the mine, "Radon emission is something that will occur and will be at low levels," he says.

Oregon Energy plans to process the uranium on the site, which is also a concern for Hansen. He says between the processing and what's left behind when you have an open-pit mine there is the possibility of a large degree of contamination, particularly of water. Once at the mill, the ore is crushed, ground up and treated with chemical solutions such as sulfuric acid to dissolve the uranium, which is then recovered from the solution. Wastes from the milling processes, called tailings, are stored in impoundments, the EPA says.

The Nuclear Regulatory Commission says uranium mills must meet criteria include requirements for where tailings are sited, how the storage is designed and covered, and provide "financial surety for decommissioning, reclamation and long-term surveillance." One of the main hazardous substances uranium mill tailings contain is the radioactive element radium, which decays to produce cancer-causing radon. The NRC says the radium in the tailings will not decay entirely for thousands of years.

EW

Part 2 in a series on mining in Oregon



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