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## Test may map way for power project

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By Andy Porter of the Union-Bulletin

A test that could be a key part of a \$2 billion power project as well as a new tool to fight global warming may literally be going down early next year.

Using a well drilled deep into basalt beneath the Wallula area, the pilot project by Pacific Northwest National Laboratory will inject liquid carbon dioxide into the formation with the hope it will convert to a solid form that will stay permanently locked in the rock.

If all goes well, the process will be a key element for a proposal to build a low-emissions power plant in western Walla Walla County on property owned by the Port of Walla Walla.

On a larger scale, the test could lead to a new way to capture carbon dioxide that will play into where future power-generating stations can be placed.

"The objective of the pilot project is to get a better idea of if it will work," said Pete McGrail, project manager. "What we're seeing unfold here is a new paradigm for how baseload power generation will be sited."

McGrail said the project started in 2005 when he and other PNNL researchers began to think about how the 77,000-square-mile Columbia River basalt formation might be used to store carbon dioxide.

"Here's a massive geologic formation," he said. "Can we use it? Is it possible to get (carbon dioxide) into these formations?" he said.

McGrail went on to direct the research that discovered that when liquid carbon dioxide was injected into basalt samples under pressure, it became "incredibly mineralized."

"That was essentially the 'eureka moment,'" he said Friday during a conference call. "So we went to work trying to figure out why that happened."

Grant Pfeifer, regional director for Ecology's Eastern Washington office, said his agency and PNNL are currently working through the regulatory framework needed to move the project ahead.

Lab and ecology officials toured the area Thursday and spent the day talking "principally about the regulatory scheme to provide protection for water resources and air quality, such as dust and exhaust from construction."

Along with Ecology, the Department of Natural Resources is also monitoring the project as well as Community, Trade and Economic Development, Pfeifer said.

Although the injection well will be far below the depth of water wells, safeguards will be put into place to prevent carbon dioxide from contaminating the upper layers of basalt and there will be extensive monitoring of water quality, Pfeifer said.

McGrail said the next step will be a seismic survey of the well site. After analysis of the data, ``we'll then proceed with the drilling program, contingent on permits," with a hoped-for start in February.

If the pilot project proves out, the payoff for sequestering carbon from future power plants could be huge.

According to an earlier report on the project, the 3,000 to 5,000 tons of carbon dioxide to be injected into the test site is approximately the amount a 150-megawatt coal-fired power plant emits daily.

``If the process is viable, we think basalts in the Pacific Northwest could sequester more than a century's worth of the (carbon dioxide) generated in the region and create a major opportunity for zero-emission power generation in the Northwest," McGrail said at that time.