Heart of America Northwest
The Public's Voice for Hanford Cleanup

Washington Physicians For Social Responsibility

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Contact: **Peggy Maze Johnson**, Heart of America Northwest, (206) 382-1014, peg@hoanw.org;
Chuck Johnson, Washington/Oregon Physicians for Social Responsibility, (503) 777-2794, washpsr@gmail.com

Former US Department of Energy Official Warns of Radioactive Waste Hazard at Nuclear Plant on the Columbia River

Seattle// Robert Alvarez, a former policy advisor to the U.S. Secretary of Energy during the Clinton Administration, and senior scholar at the Institute for Policy Studies in Washington, DC, released a report today, entitled *"The Hazards of High-Level Radioactive Waste in the Pacific Northwest: A Review of Spent Nuclear Fuel Management at the Columbia Generating Station."*

In a 57-page study commissioned by Hanford and nuclear energy watchdog groups, Alvarez describes the danger to workers and the surrounding community of storing 320,000 spent nuclear fuel rods containing 273 to 363 million curies of long-lived radioactivity at the commercial reactor site, located along the Columbia River on the Hanford Nuclear Reservation.

"By comparison, the Columbia reactor has generated about 150 to 200% more radioactivity than contained nearby in Hanford's 177 defense high-level radioactive tanks after 40 years of plutonium production for nuclear weapons," Alvarez noted, "This amounts to approximately half of the total concentration of radioactive wastes on the Hanford site."

"The most dangerous wastes are located in the elevated spent fuel pool, perched five stories above the ground next to the reactor," Alvarez continued. "According to an opinion issued by Nuclear Regulatory Commission Chairman Allison Macfarlane, these wastes have the potential of catching fire in a loss of coolant accident, spreading enormous amounts of cesium-137 and other radionuclides across hundreds of miles." Chairman Macfarlane's opinion, echoing a 2004 National Academy of Sciences study on spent fuel pool accident vulnerability, is included as an attachment to Alvarez' report. "Energy Northwest has made progress in removing spent nuclear fuel from the reactor pool," said Alvarez, "but more needs to be done."

"The amount of potential radioactivity released in such a catastrophic accident is staggering," said the former US Department of Energy advisor, "considering that the amount of cesium-137 in the CGS pool is about two to three times more than released by all atmospheric nuclear weapons tests and about 24 to 45 times more than released by the Chernobyl accident."

Alvarez also noted that the practice begun in the 1990's of keeping fuel rods in reactors twice as long as originally designed is resulting in a greater risk of the breakdown of the cladding of nuclear fuel. This makes operating reactors more difficult and requires keeping the extremely hot fuel in the spent fuel pool much longer than previously required before removing to dry casks. He called upon the Nuclear Regulatory Commission and the utility operators to reveal

what percentage of spent fuel in the CGS' pool is made up of this "high-burnup" fuel and recommended that it be specifically stored to protect against eventual fuel failure.

The Columbia Generating Station, formerly known as the Washington Public Power Supply System Plant #2, is the Northwest's only operating commercial nuclear power plant. Located on the Hanford Nuclear Reservation north of Richland, Washington, it is owned by 92 publicly owned utilities in the Northwest and operated by Energy Northwest, a consortium of 27 public power utilities in Washington State. The 1,170 megawatt GE boiling water reactor, of similar design to those that melted down in the 2011 accident at Fukushima, supplies about 4% of the region's electricity through a purchasing contract with the Bonneville Power Administration.

Dr. Steven Gilbert, a Seattle toxicologist representing Washington Physicians for Social Responsibility (WPSR), said that Alvarez' study emphasizes the danger the Northwest faces in the case of a large earthquake in the Mid-Columbia Basin.

"Given that the US Geological Survey now believes that ground motion in a major earthquake on the Hanford site will be more than double what the CGS nuclear plant was designed to withstand, we call on the utility owners, including Seattle City Light, to vote to close this enormously hazardous facility as rapidly as possible," Dr. Gilbert said.

Heart of America Northwest (HOANW) echoed WPSR's call for a nuclear plant shutdown for safety and cost reasons. "Common sense says you don't keep running an aging nuclear power plant with a high safety risk when it appears that ratepayers are already spending more money than if the electricity was bought elsewhere on the market" said HOANW spokesperson State Representative Gerry Pollet (D-Seattle).

Rep. Pollet noted that respected utility economist Robert McCullough estimates the region would have saved around $200 million last year if the plant had been closed and the power replaced by market-based contracts.

Another key finding in Alvarez' report is that from 1999 to 2011, the nuclear power plant was responsible for nearly half of the collective worker radiation dose of all facilities located on the Hanford site, including US Department of Energy facilities, This startling statistic is masked by the fact that Energy Northwest employs transient workers to spread the dose over a larger number of people.

Of additional concern to workers is the fact that the parking lot of the reactor adjoins a DOE radioactive waste disposal site that received spent reactor fuel, plutonium wastes and a wide array of other materials. A Hanford contractor recently told its employees that the dump "holds some the highest hazard materials we've encountered at Hanford." Internal documents indicate that an accident at the site during cleanup could overexpose workers and contaminate the CGS site. "It's clear, even based on early safety standards," says Alvarez, "that location of this nuclear power plant would not have been permitted if it was known to be right next to a shallow burial site holding high-level radioactive waste."

See the full report at http://nuclearfreenw.org/NuclearWasteReport-Alvarez.pdf