Hanford Cleanup: Speak Up to Protect Public Health, the Columbia River

Comment Deadline: April 12, 2018

Hanford is the most contaminated site in the Western Hemisphere—and you can help hold our government accountable for Hanford’s toxic and radioactive pollution legacy. Right now, the federal government and Washington state want your input on critical cleanup decisions.

The U.S. Department of Energy (Energy) wants approval to fill failing infrastructure at Hanford, known as PUREX Tunnel 2, with grout to stabilize the tunnel. This area of Hanford made headlines last year when Tunnel 1 failed and collapsed. Tunnel 2 may contain over 7,000 curies of plutonium and other radioactive materials.

Learn why this cleanup decision matters and how you can weigh-in and make a difference.

What are the PUREX Tunnels?

- The PUREX Plant is located in the 200-East Area of the Hanford Site near Richland, Washington. The federal government operated PUREX from 1956 to 1988 to process spent nuclear reactor fuel. PUREX recovered plutonium, uranium, and other radioactive isotopes for use in the U.S. nuclear weapons program.

- Two tunnels, known as the PUREX Tunnels, store waste from the PUREX Plant and other onsite sources. The tunnels are filled with old railcars containing a variety of failed or derelict equipment.
  - The stored waste contains highly radioactive residues. The PUREX Tunnels contain 2.8 million curies of radioactive contamination.
  - Waste also includes very toxic chemicals, such as lead, barium, and chromium.
  - Soils and groundwater around PUREX and the PUREX Tunnels already contain elevated levels of radioactive and chemical pollution.
In May 2017, a 20-foot section of Tunnel 1’s roof collapsed, causing a two-day emergency response. Energy verified that no contamination was released into the environment and temporarily backfilled the collapsed area with sand.

Notably, in 2016 Energy extended a 2024 cleanup deadline for the PUREX Tunnels to 2042. As part of the delay, Energy committed to completing a structural integrity analysis by September 30, 2017. PUREX Tunnel 1 collapsed before Energy completed the analysis.

In fall 2017, Energy filled Tunnel 1 with engineered grout, a type of cement. Energy also released information showing that Tunnel 2 was at risk of collapse.

Energy proposes a permit modification that would:
- describe the stabilization action taken for Tunnel 1,
- the proposed actions for stabilizing Tunnel 2, and
- the implications of these actions for future closure and cleanup of the PUREX Tunnels.

After evaluating Tunnel 2 and identifying a threat of potential collapse, Energy proposes filling Tunnel 2 with engineered grout to stabilize the structure and mitigate the risk of potential future failure.

Washington’s Department of Ecology (Ecology) is still reviewing Energy’s proposal and accepting public comment. The permit modification request is necessary to approve this work, which Energy plans to begin in summer 2018.
Public Comments Matter: Hold the Government Accountable for Hanford Cleanup

Suggested Comments

- **Energy must ensure that the PUREX Tunnels do not become a long-term waste dump.**
  
  - By filling Tunnel 2 with grout (a type of cement), Energy may be setting the stage to leave long-lived, highly radioactive contamination in Hanford's soil.
  
  - Energy’s website offers in-place grouting as an alternative to direct remediation of materials in the tunnels, stating, "the option of grouting the rail cars in-place within the tunnel is being evaluated since removal of the cars would entail extreme worker safety hazards and would be more costly than grouting in-place."
  
  - The Tri-Party Agreement (TPA) agencies—Energy, Ecology, and the U.S. Environmental Protection Agency—should explain how grouted waste could be removed, treated, and disposed of outside of the PUREX Tunnels. If grouting waste precludes Energy from removing, treating, and disposing of waste in Tunnel 2, Energy should not proceed with grouting without further study and a clear explanation of long-term impacts to soils and groundwater.

- **Energy should have a clear understanding of the waste stored in PUREX storage Tunnel 2 and provide this information to the public.**
  
  - Energy provides few details about the expected quantity or type of radioactive pollution present in the Tunnel.

  - Energy’s Tank Closure and Waste Management Environmental Impact Statement shows that Tunnel 2 likely contains significant amounts of Plutonium-239/240, Iodine-129, chromium, lead, and other contamination.

  - Similarly, a 2015 report by the Consortium for Risk Evaluation and Stakeholder Participation shows that the Tunnels contain high levels of long-lived radionuclides such as Plutonium, Americium, and Iodine-129.

  - Energy should evaluate whether grouting waste in Tunnel 2 will permanently impair the agency’s ability to evaluate the contents of the tunnel.

The PUREX Tunnels contain equipment contaminated with approximately 2.8 million curies of various radionuclides and with other hazardous materials. Some of these radioactive materials are long-lived and could move through soils and groundwater over hundreds or thousands of years. Case in point: Plutonium-239 and Iodine-129 have half-lives of 24,000 years and 15.7 million years, respectively.
Suggested Comments (continued)

- **Long-lived contamination present in the PUREX Tunnels could pose a long-term risk to soils, groundwater, and ultimately the Columbia River.**
  - Large concentrations of Iodine-129 are present around the PUREX Tunnel site. The Hanford Site Environmental Report for 2016 shows groundwater plumes originating in the 200-East Area approaching and in some cases reaching the Columbia River. See Figure 1.
  - Energy must evaluate the long-term risk to soils, groundwater, and the Columbia River from waste in the PUREX Tunnels. Energy should not assume that “landfill closure,” grouting waste in place, provides acceptable long-term protection for the Columbia River.

Contamination in the PUREX Tunnels will likely outlive and escape containment if it stays in place. Energy’s Tank Closure and Waste Management EIS shows Iodine-129 contamination increasing and reaching the Columbia River over 1,000 years from now. See Figure 2.

Speak Up

Submit comments on Energy’s proposed changes by April 12, 2018. Urge Energy to protect people and the Columbia River from the highly dangerous radioactive and chemical waste stored in the PUREX Tunnels.

- Via eComments to: http://wt.ecology.commentinput.com/?id=3cRfj
- Via mail to:
  
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