Governor Otter
Office of the Governor
State Capitol
PO Box 83720
Boise, Idaho, 83720

September 21, 2011

Dear Governor Otter and DEQ INL Oversight Director Burke,

We respectfully request that the State's INL Oversight team correct and clarify the information on the INL Oversight Program website and brochures regarding the buried plutonium waste at INL.

On the DEQ webpage of FAQ's, the word "ALL" misrepresents the facts i.e., "DOE will treat transuranic and alpha-contaminated mixed waste now stored at the INL and begin shipments to the Waste Isolation Pilot Plant for disposal no later than 1999. **All transuranic waste will be removed from the state** by a target date of Dec. 31, 2015, and no later than Dec. 31, 2018." All waste will, in fact, not be removed from the INL site.

On the DEQ webpage, you detail the 2008 deal on the buried waste. You are incorrectly using the word "MOST" about the buried plutonium removed, i.e., "July 1, 2008, the state of Idaho and the U.S. Department of Energy (DOE) finalized an agreement (Agreement to Implement U.S. District Court Order dated May 25, 2006) outlining a cleanup plan for buried waste at the Idaho National Laboratory (INL). **The agreement requires DOE to remove most of the transuranic waste buried** in the Subsurface Disposal Area (SDA) at the INL decades ago and ship it to a secure facility out of Idaho." The facts show that less than 80% percent of plutonium contaminated waste will be removed.

From the DEQ huge color brochure this summer sent to thousands of innocent teachers and citizens, and still promoted at http://www.deq.idaho.gov/media/704742-monitor-summer-2011.pdf See page 3/5, but you then need to slide the screen to the right to see the full page headline declaring the **"Idaho and DOE resolve the meaning of ALL.".** The brochure states "The DOE claimed that "all" meant only the above-ground transuranic waste located in the Transuranic Storage Area at the INL. **Idaho contended that all transuranic waste meant just that—all—including the waste buried** in the subsurface disposal area (buried waste)."

DEQ needs to make citizens aware that only 12% of transuranic waste was "targeted" for removal. To misrepresent this number for public relation purposes is dishonest and not aligned with the purpose and mission of Idaho DEQ. The Idaho Cleanup, by the numbers, will only remove 7,500 cubic meters of the 62,000 cubic meters buried at the site. See http://www.deq.idaho.gov/media/550373-implementation_agreement_2008.pdf in section V (page 6/43)

7,500 cubic meters is in fact not "most" nor "all' of the plutonium contaminated waste spread and buried in our 15 acre, 62,000 cubic meter waste dump. We demand that

DEQ make it clear to every citizen that depends on DEQ to protect them, exactly what "all" now means, and exactly how much plutonium is really being left buried, despite the 41 years of promises to remove it all?

To help the public understand the risk, the DEQ should have a webpage explaining the DOE discoveries of the threat of plutonium moving with water, since the dump is in a historical flood zone. But DEQ website never mentions plutonium nanoclusters nor colloid transport of plutonium in water.

In 2008, DOE's Dr. Soderholm and her team stated, "**For almost half a century, scientists have struggled with plutonium contamination spreading further in groundwater than expected, increasing the risk of sickness in humans and animals**."

It was known nanometer-sized clusters of plutonium oxide were the culprit, but **no one had been able to study its structure or find a way to separate it from the groundwater."** The DOE Doctor continued "**Models have been based on the free-plutonium model, creating discrepancies between what is expected and reality**. Soderholm said that with knowledge of the structure, scientists can now create better models to account for not only free-roaming plutonium ions, but also the nanoclusters.

The clusters also are a problem for plutonium remediation. The free ions are relatively easy to separate out from groundwater, but **the clusters are difficult to remove.** " (Reference in full below)

The DEQ website also does not mention the new plutonium dump permitted, called ICDF, or the Idaho Consolidated Disposal Facility. This omission needs correction, since stakeholders were promised no more waste dumping and no more waste shipments into Idaho. Citizens need to know the Settlement Agreement allows up to 200 acres of plutonium contaminated waste for new projects that create more waste. While INL refers to this as "trace plutonium," Idaho DEQ needs to clarify how many billion plutonium particles are allowed to be buried, and report that in total pounds of raw plutonium, so that stakeholders understand both the legacy plutonium, the present, and the future plutonium the State is permitting.

While we would prefer the full plutonium clean up promised, which would provide $13 billion in Idaho jobs, we ask that DEQ practice honest reporting of the reality of the waste situation.

Sincerely,

Dr. Peter Rickards D.P.M.
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208-969-0682

Chuck Broscious - Executive Director
Environmental Defense Institute
http://www.environmental-defense-institute.org/

James Powell – Executive Director
Keep Yellowstone Nuclear Free
www.kynf.org

http://www.anl.gov/Media_Center/News/2008/news080422.html

Scientists discover how the structure of plutonium nanocluster contaminants increases risk of spreading

ARGONNE, Ill. (April 22, 2008) — For almost half a century, scientists have struggled with plutonium contamination spreading further in groundwater than expected, increasing the risk of sickness in humans and animals.

It was known nanometer-sized clusters of plutonium oxide were the culprit, but no one had been able to study its structure or find a way to separate it from the groundwater.

Scientists at the U.S. Department of Energy's Argonne National Laboratory, in collaboration with researchers from the University of Notre Dame, were able to use high-energy X-rays from the Advanced Photon Source (APS) at Argonne to finally discover and study the structure of plutonium nanoclusters.

" When plutonium forms into the clusters, its chemistry is completely different, and no one has really been able to assess what it is, how to model it or how to separate it," said Argonne senior chemist Lynda Soderholm. "People have known about and tried to understand the nanoclusters, but it was the modern analytical techniques and the APS that allowed us understand what it is."

The nanoclusters are made up of exactly 38 plutonium atoms and have almost no charge. Unlike stray plutonium ions, which carry a positive charge, they are not attracted to the electrons in plant life, minerals, etc. which stopped the ions' progression in the ground water.

Models have been based on the free-plutonium model, creating discrepancies between what is expected and reality. Soderholm said that with knowledge of the structure, scientists can now create better models to account for not only free-roaming plutonium ions, but also the nanoclusters.

The clusters also are a problem for plutonium remediation. The free ions are relatively easy to separate out from groundwater, but the clusters are difficult to remove.

"As we learn more, we will be able to model the nanoclusters and figure out how to break them apart," Soderholm said. "Once they are formed, they are very hard to get rid of."

Soderholm said other experiments have shown some clusters with different numbers of plutonium atoms, and she plans to examine their unique electric and magnetic properties – together with her collaborators S. Skanthakumar, Richard Wilson and Peter Burns of Argonne's Chemical Sciences and Engineering Division.

Funding for the research was provided by the U.S. Department of Energy, Office of Science, Office of Basic Energy Sciences.

The mission of the Basic Energy Sciences (BES) program – a multipurpose, scientific research effort – is to foster and support fundamental research to expand the scientific foundations for new and improved energy technologies and for understanding and mitigating the environmental impacts of energy use. The portfolio supports work in the natural sciences, emphasizing fundamental research in materials sciences, chemistry, geosciences, and aspects of biosciences.

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For more information, please contact Steve McGregor (630/252-5580 or media@anl.gov) at Argonne.