

8/15/2011  
76 FR 50500

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As of: September 13, 2011  
Received: September 12, 2011  
Status: Pending Post  
Tracking No. 80f17815  
Comments Due: September 14, 2011  
Submission Type: Web

# PUBLIC SUBMISSION

**Docket:** NRC-2011-0183

Request for Comments on the Draft Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management

**Comment On:** NRC-2011-0183-0001

Request for Comments on the Draft Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management

**Document:** NRC-2011-0183-DRAFT-0004

Comment on FR Doc # 2011-20666

## Submitter Information

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**Organization:** Office of Radiation Protection

**Government Agency Type:** State

**Government Agency:** Washington State Department of Health

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RULES OF PRACTICES

## General Comment

See attached file(s)

## Attachments

WA Comments on Draft Policy VR & LLRW

SUNSI Review Complete  
Template = ADM-013

E-REDS = ADM-03  
Call = J. Lowman (dbl 1)



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September 12, 2011

Cindy Bladey, Chief  
Rules, Announcements, and Directives Branch (RADB)  
Office of Administration  
Mail Stop: TWB-05-B01M  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject: Docket ID NRC-2011-0183

Dear Ms. Bladey:

The Washington State Department of Health appreciates the opportunity to review the NRC's Draft Policy Statement on Volume Reduction and Low-Level Radioactive Waste Management.

In the policy statement, the NRC believes that volume reduction will:

- Extend the operational lifetime of the existing commercial low-level disposal sites.
- Reduce the number of waste shipments.

The radioactive waste industry has substantial experience in reducing volumes, primarily due to increased disposal costs and the requirement by disposal sites to minimize void spaces within packages. Over the years, positive and negative benefits have become apparent.

The positive benefits of the volume reduction policy are:

- Waste densities after processing approach/surpass waste site in-situ density, thus reducing subsidence (e.g., the site is more structurally stable, especially after closure).
- More waste disposal site capacity, permitting longer periods of operations. Operations allow for site stability monitoring and active maintenance; reducing long-term risk.
- A longer period of time/more radioactive decay before no active maintenance is allowed and institutional controls are relied upon, again reducing long-term risk.

This volume reduction policy has side effects. These effects are:

- For a given amount of waste, volume-reduced waste will keep a cell/trench open (and uncapped) longer, thus potentially leading to greater exposures after closure.
- Higher activity concentrations in processed (e.g., volume reduced) waste.
- Higher costs for waste generators.

These downside effects are described further.



Cindy Bladey, Chief  
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On the first point, water infiltration is a primary consideration in determining long-term exposure (and thus risk). Unless a "close-as-you-go" policy is adopted, keeping a disposal area open longer allows for more water infiltration. As the water increases, the chance of mobilization of waste grows—thus the higher exposures after closure.

Concentrating radionuclides in the waste increases the amount of activity that is disposed over the life of the waste site. In combination with cells being open longer, this can lead to higher doses to future generations who inhabit the disposal site or establish a residence adjacent to the closed site.

Higher waste generator costs result from the added step(s) involved in volume reduction. While avoiding disposal (i.e., storing waste) for financial reasons decreases the risk at the waste site, storage (closer to the public) is certainly not the preferred risk informed decision. Waste in storage is a greater risk than if disposed. The NRC acknowledges this concept.

Additionally, the national compact system does not encourage volume reduction. Most sites have a monopoly in their compact. Disposal rates at the few operating sites are not driven by competition. While high rates would seem to promote volume reduction, the rates are prohibitively high for many waste generators. For example, the entire cost of the Washington State disposal site is born by a few generators (e.g., nuclear power plant and federal generators) who can pay the price, no matter what the volume disposed. Paying further costs to reduce the volume beyond basic techniques simply adds to a company's waste management costs.

This policy is also at odds, on a technical level, with the NRC's policy on blending. Blending reduces the concentration of Class B or C waste to Class A levels. In its assessment of blending and in the original 10 CFR 61 EIS, the NRC found that a large volume of waste with high concentrations (close to the Class A limit) was not evaluated. Volume reduction increases the concentration of Class A waste closer to the Class A limit, encouraging the production of waste not considered in the EIS.

Again, I want to thank you for the chance to comment on this draft policy statement.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Elsen", with a long horizontal flourish extending to the right.

Mike Elsen, Supervisor  
Waste Management Section