

Supplemental Environmental Impact Statement (SEIS) – Who to trust?

Raymond C. Vaughan, Ph.D., P.G.

**West Valley Citizen Task Force caucus
July 28, 2021**

The Supplemental EIS (to be completed in 2023?) will support the DOE/NYSERDA decision on:

- **Two onsite burial grounds (SDA and NDA) and**
- **Waste that remains in underground tanks**
- **Etc.**

The main choices are:

- **Dig up & remove these wastes (what impacts?)**
- **Leave wastes in place (what impacts?)**
- **Some combination of these (what impacts?)**

For assessing the impacts: WHO TO TRUST?

**If the wastes remain buried, should we trust
DOE/NYSERDA in 1996?**

**Their professionally prepared 1996 Draft EIS
predicts about 300,000 millirems/year dose to the
maximally exposed individual (Buttermilk Creek
resident) about 300 years from now (year 2320)**

Or should we trust DOE/NYSERDA in 2010?

**Their professionally prepared 2010 Final EIS
predicts less than 25 millirems/year dose to the
maximally exposed individual in the future**

**These predictions differ by a factor of *more than
10,000*. The 1996 prediction is *more than one
million percent higher* than the 2010 prediction**

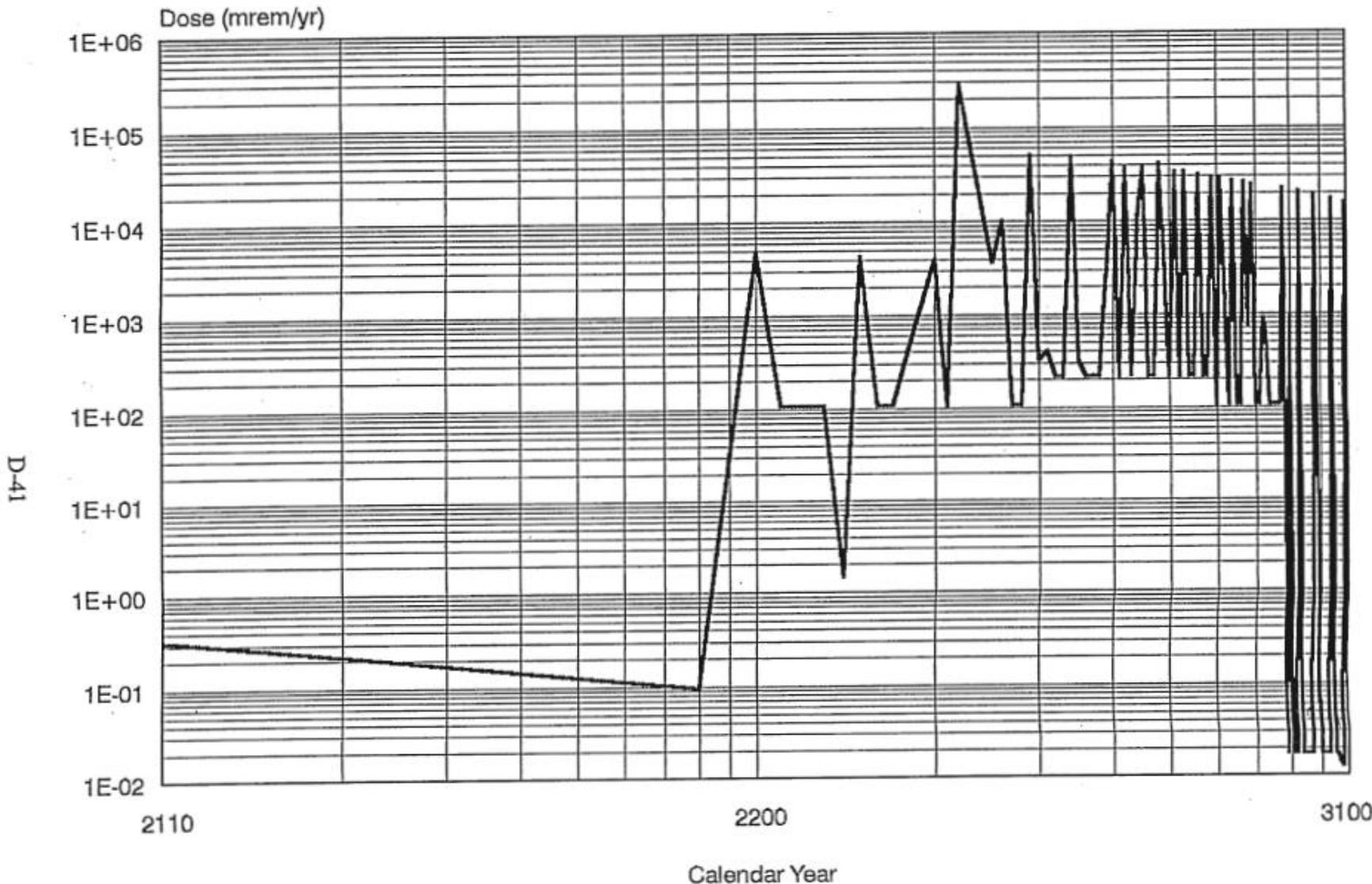


Figure D-8. Alternative III Assumed Loss of Institutional Control Case, Local Erosion Control Strategy: Erosion Collapse Scenario, Cumulative Impacts for a Buttermilk Creek Resident

How can these two professionally prepared predictions in government-issued reports be so different? The main reasons are:

- **Erosion**
- **Erosion**
- **Erosion**
- **Erosion**
- **EROSION**

The 1996 Draft EIS predicts that very severe erosion will cut into the South Plateau & remove most of the buried waste, carrying it downstream

The 2010 Final EIS predicts almost no erosion

1996 Draft EIS

2005 Draft EIS (similar to 2010 Final)

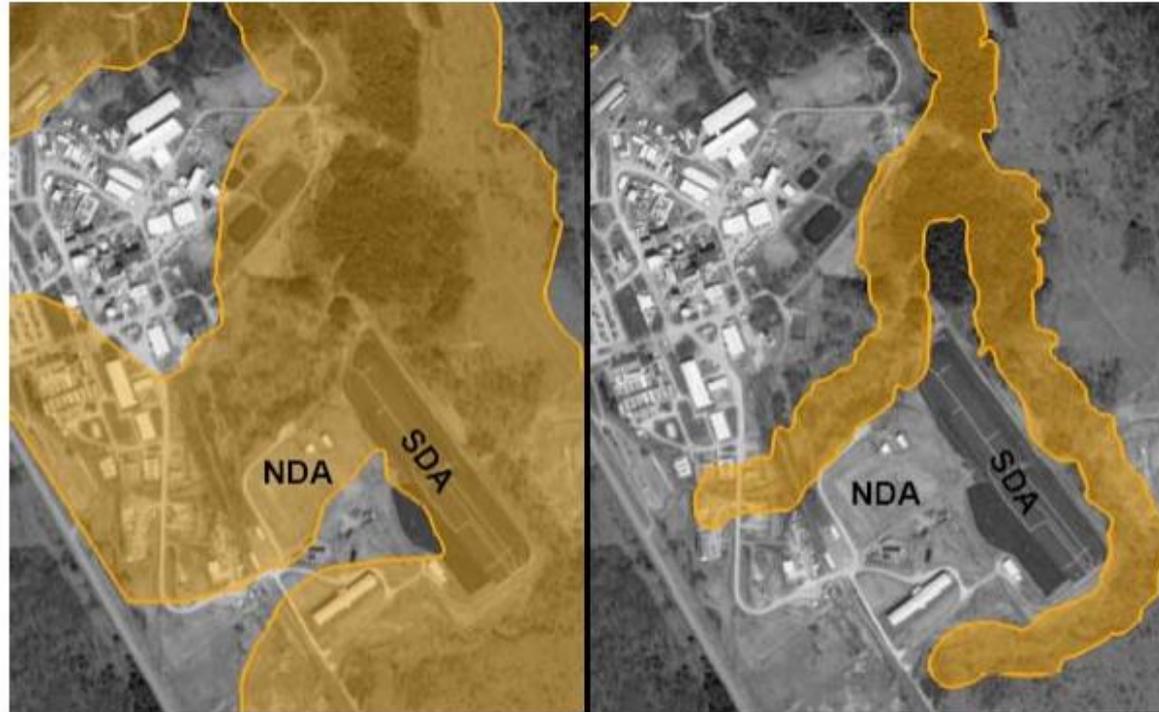


Figure 6.8
Erosion estimates from the 1996 DEIS (left) and the 2005 DEIS (right). The orange area indicates the region which would have eroded significantly in 1000 years. In the 1996 DEIS, the estimates of erosion nearly completely expose both the NRC Disposal Area (NDA) and the State licensed Disposal Area (SDA), while in the 2005 DEIS most of the waste is estimated to remain intact.²¹¹

So the question of trust shifts to erosion. But is it fair to compare the 1996 and 2010 predictions?

Can't we trust the Phase 1 erosion studies that provide new evidence-based methods & results?

- We can't be certain until we can see those methods and results**
- However, we haven't been able to see any recent methods or results, and we may not be given an opportunity to see them until the Draft Supplemental EIS is released (in 2022?) for a 6-month public comment period**
- Six months may seem plenty of time, but not if we have to find experts – and bring them up to speed – to help us review methods & results**

Personally, I doubt that the Phase 1 erosion studies will provide independent methods and results that we can trust, because:

- **The Phase 1 studies continue to use the 2010 erosion modeling method (*landscape evolution model*) with minor tweaking, without fixing the defects we've identified such as uncheckable assumptions and outright errors**
- **The Phase 1 studies have not identified any substantial error in the 1996 erosion modeling method. *If it's wrong, can it be clearly shown?***
- **Looking beyond the Phase 1 studies, we see Neptune creating probability distributions from insufficient or biased data**

For more detail on some of these points, see:

- **The CTF's scoping comments dated 5/21/18, and my own scoping comments dated 5/23/18**
- **My presentations to the CTF, 6/28/17, 10/23/19, and 10/28/20**
- **My EIS comments 131 and 139-144, and DOE responses 110-77 and 110-81 through 110-86. See 2010 Final EIS Response to Comments, pdf pages 266-270 at https://www.wv.doe.gov/final/EIS-0226_F-Vol3-CRDPart1.pdf**
- **Hannah Fry, “We hold people with power to account. Why not algorithms?”, *The Guardian*, 9/17/18. (Copy available upon request.)**

Main takeaway message: If onsite wastes remain buried, should we trust DOE/NYSERDA in 1996?

Their professionally prepared 1996 Draft EIS predicts about 300,000 millirems/year dose to the maximally exposed individual (Buttermilk Creek resident) about 300 years from now (year 2320)

...or should we trust DOE/NYSERDA in 2010?

Their professionally prepared 2010 Final EIS predicts less than 25 millirems/year dose to the maximally exposed individual in the future

These predictions are incredibly different – we can't just assume that newer is better, and can't dismiss the 1996 work without good reason.