

# NRC Regulatory Highlights and Insights



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# Topics

- Groundwater inspection results ML14086A644
- Decomm Planning Inspections
- List of Leaks and Spills
- NUREG/CR-2907 Effluent Summary Reports
- RG 1.21 Electronic Data Submittal
- Cancer Study
- Individual vs. Member of the public (MOP)
- RG 4.13 revision for ANSI/HPS 13.37



# Ground water – NEI-GPI inspection results

- TI-2515/185 Closure
  - Most plants completed missing elements
  - Use of CAP programs
  - Continued inspection under 71124.06
- 50.72(b)(2)(xi) reporting of leaks
  - New leaks must be reported
  - Violations if not reported



# DPR and Inspections

## NEI-GPI Groundwater

- DPR – Decomm Planning Rule (2012)
  - 10 CFR 20.1406 - minimize contamination
  - 10 CFR 20.1501 – requires subsurface surveys
  - RG 4.22 deems subsurface surveys are adequate if implementing NEI-GPI



# List of Leaks and Spills

- Update every 6 months
  - published on NRC web site
  - <http://www.nrc.gov/reactors/operating/ops-experience/tritium/sites-grndwtr-contam.html>
- Status
  - 45 sites have had > 20,000 pCi/L
  - 13 sites currently have > 20,000 pCi/L
- Public concern is independent of risk

# Plants > 20,000 pCi/L

- Brunswick – 3.5M
- Dresden – 40K
- Hatch – 5M
- LaSalle – 97K
- North Anna – 53K
- Oconee – 45K
- Oyster Creek – 43K



# List - continued

- Peach Bottom – 32K
- Quad Cities – 150K
- River Bend – 1.1M
- Salem – 436K



# NUREG/CR-2907

## Effluent Summary Reports

- Commission requested effluent summary reports
- Compares BWRs to BWRs
- Compare PWRs to PWRs
- Shows differences in effluent releases
- Some BWRs
  - No tritium
  - No noble gas
  - Other BWRs look high compared to zero

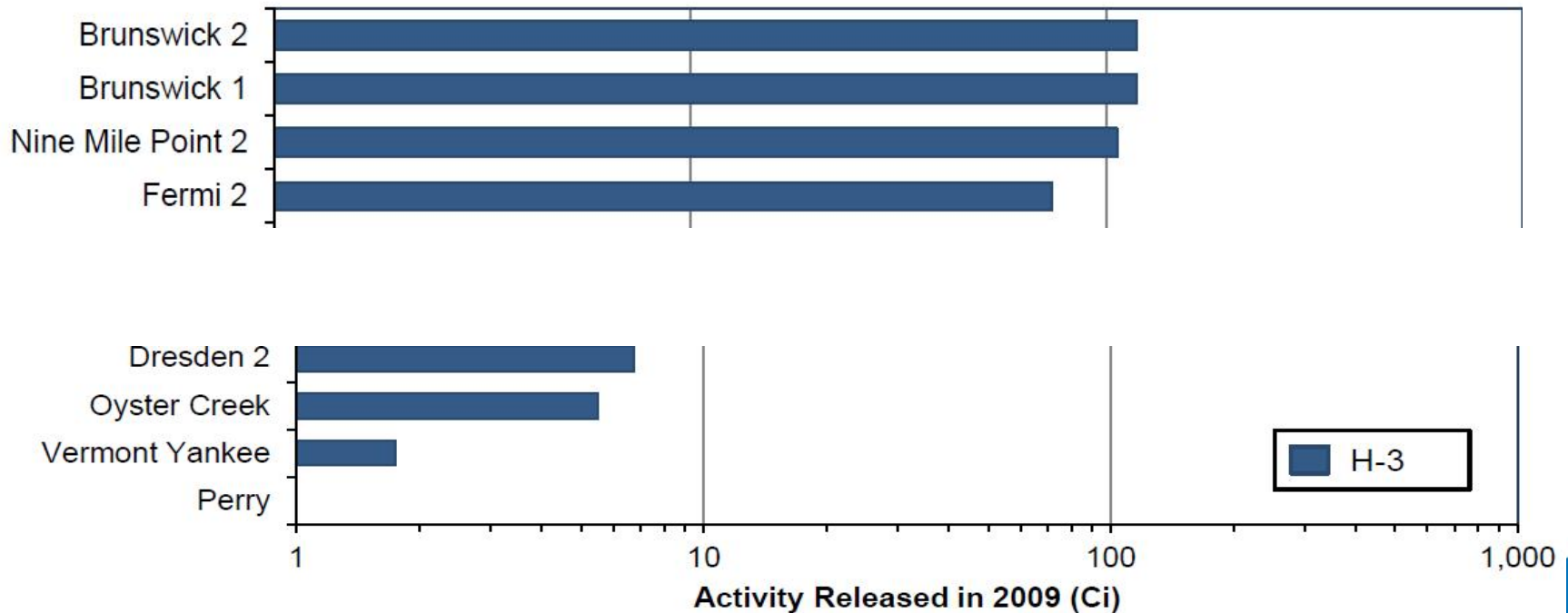




# NUREG/CR-2907

(example 2009 data)

## BWR Gaseous Releases — Tritium



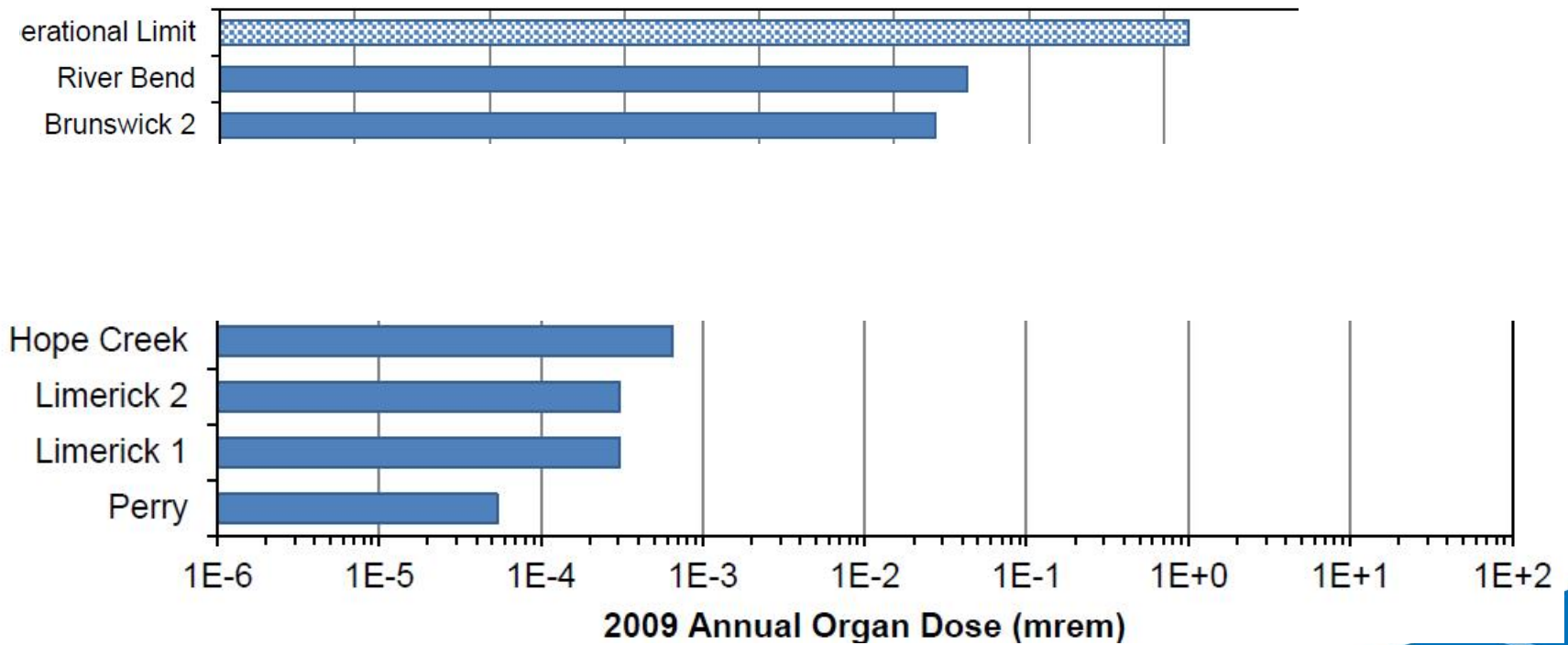
# BWR Example

## BWR Gaseous Effluents — Maximum Annual Organ Dose, 2009

<b>BWR Facility</b>	<b>Annual Organ Dose (mrem)</b>
Perry	5.33E-05
Limerick 1	3.03E-04
Limerick 2	3.03E-04
Hope Creek	6.51E-04
Brunswick 1	2.03E-01
Brunswick 2	2.03E-01
River Bend	3.48E-01
<b>System Operational Limit</b>	<b>15</b>

# BWR graph

## BWR Gaseous Effluents — Maximum Annual Organ Dose



# RG 1.21 Reports

## Electronic Data Submittal

- Oak Ridge (ORAU) contracted to:
  - Download and analyze RG 1.21 reports
  - Punch data into new data base
  - Generate graphs and tables
- Tedious, expensive process
- Opportunity to submit data electronically
- Not a requirement



# Cancer Risk Study

- Phase I “evaluation” complete
  - Nat’l Academy of Science (NAS) can do the study.
- Phase II starting
- Started pilot studies September 2013 (2-3 year effort)
  - Dresden, Millstone, Oyster Creek, Haddam Neck , Big Rock Point, San Onofre, and Nuclear Fuel Services, TN
- NAS collecting RG 1.21 reports back to 1960s
- NAS will run dose calculations



# “Individual” vs “Member of Public” (MOP)

- “Individual”
  - Appendix I and ODCMs – use the term “individual in the unrestricted area” (e.g., 3 mrem/yr)
- “MOP”
  - 10 CFR 20 - uses the term “MOP,” on-site or off-site; i.e., regardless of MOP’s location (100 mrem/yr)
  - EPA 40 CFR 190 – uses the term “member of the public” in the general environment (i.e., unrestricted area) (~25 mrem/yr)



# Environmental Dosimetry

- “Direct” radiation monitoring
- Intended revision of RG 4.13
  - Adopts ANSI N13.37
  - Provides method of determining facility-related dose
  - Demonstrates compliance with 40 CFR 190
- Direct radiation components
  - Previously, N-16, short-term radwaste storage
  - Now, long-term:
    - Spent fuel storage
    - Rx Head and SG storage



# Questions and Discussion

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