



Environmental Monitoring Program

Presented to: Citizen Task Force
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One Project. One Team. One Goal.

Environmental Monitoring

Environmental Surveillance: ~ 8,000 samples/year collected from over 200 locations

- Summarized in Annual Site Environmental Report (ASER) on DOE WVDP internet site: <http://www.wv.doe.gov/>
- Ensures worker and public safety
- Monitoring types
 - Air: Stack monitoring and ambient air (Great Valley background sample)
 - Groundwater (208 on-site routine groundwater monitoring locations)

	North Plateau	South Plateau	PTW	Total
Sampled	55	14	26	95
Water Level	34	39	40	113
Total	89	53	66	208

Environmental Monitoring (Continued)

- Monitoring types, continued
 - Surface water: On-site (e.g., Frank's Creek, Erdman Brook) and off-site sampling points (e.g., Buttermilk Creek, Cattaraugus Creek)
 - Sediment and soil: On-site and off-site samples
 - Food/Biota (e.g., fish, deer, milk)
 - Drinking water (monthly drinking water report)
- Radiological and non-radiological analytical scope documented in ASER Appendix A
 - Total effective dose equivalency (EDE) from waterborne and air pathways (2010 ASER):
 - Maximum exposed off-site individual (MEOSI) 0.066 mrem (0.066% of DOE Standard)

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Effluent Monitoring

Liquid Effluent

- Site Sewage Treatment Plant (STP)
- Non-radiological discharge
- Low-level Waste Treatment Facility (from Lagoon 3)
- Batch discharges (~ Six discharges a year)
- Monthly reporting to NYSDEC

Stormwater Discharges

- 19 Stormwater discharge outfalls
- Site drainage points
- Natural drainage from northeast swamp
- Upgradient Permeable Treatment Wall installed in 2010

Plant Ventilation Stacks

- 7 Stacks and 15 portable ventilation units
- Extremely low emissions (Less than 0.02% of standard)
- 0.0017 mrem/yr vs 10 mrem/yr standard (for maximum exposed off-site individual, MEOSI)



RHWF Stack Monitoring System

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Subsurface Permeable Treatment Wall



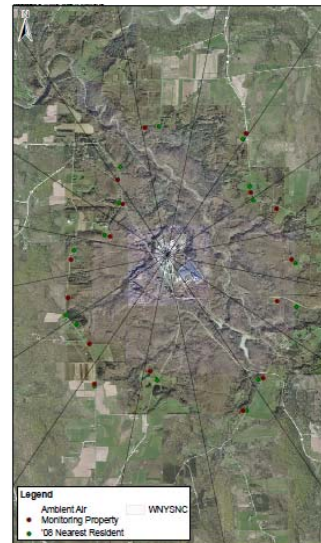
- Installed in 2010
- Installed to remove Sr-90 from groundwater
- Monitoring Wells (2") installed up and down gradient of PTW and in wall
 - 66 Wells monitored quarterly
 - Additional 21 wells (Total 87) monitored annually
- Working effectively to capture and bind Sr-90
- Sr-90 Activity within PTW substantially lower than in up-gradient wells

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Upcoming Proposed Ambient Air Monitoring

Objective of ambient monitoring program

- Adding 16 monitoring locations (from one background location)
- Ambient monitoring program (Being implemented in support of planned demolition activities)
- Monitor diffuse source emissions
- Collect ambient air data in proximity to nearest receptors
- Augment existing monitor and model approach



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Overview of Upcoming Ambient Monitoring Program

- ▶ Background and 16 stations on NYSERDA and private properties
- ▶ Monitoring program
 - Minimum of 80% continuous monitoring
 - Biweekly gross alpha and beta
 - Quarterly isotopic for key WVDP isotopes (Sr-90, Cs-137, I-129, U-232, Pu-239/240, Am-241)
 - High-volume sampler at critical receptor
 - Continue meteorological monitoring and monitor and model of emissions
 - Compare ambient to monitor and model approach
- ▶ Goal: Operational by July 2012

