

Groundwater Tritium Response

Regulatory Information Conference

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Topics

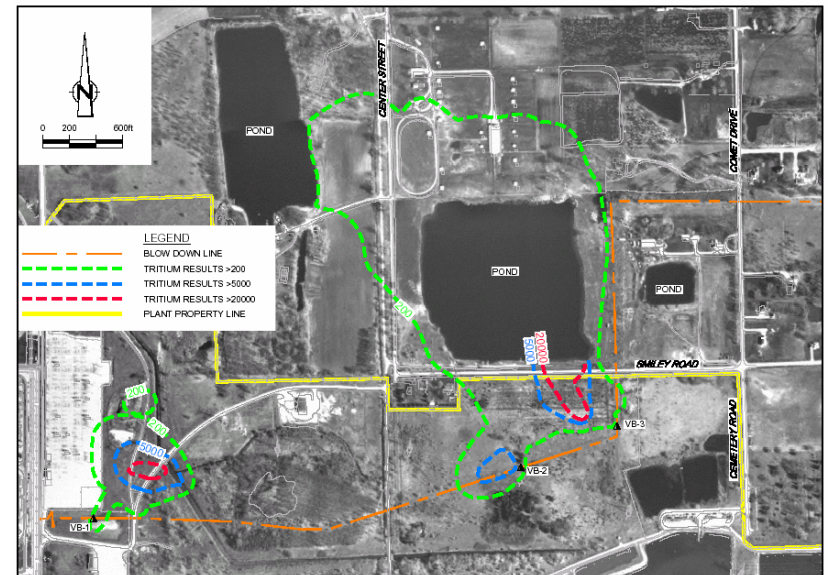
- Braidwood Station issue and response
- Fleet-wide response
- Issues and learnings

Braidwood Station - Chronology

Nov 2005	Identified tritium in offsite groundwater Notified stakeholders, formed issue management team Ceased liquid releases
Dec 2005	Completed sampling of main affected area
March 2006	Completed sampling for extent of condition
March – April	Submitted investigation reports to agencies
May 2006	Entered preliminary injunction order NRC issued preliminary white finding
June 2006	Modified discharge line, began remediating main area
June-Dec	Submitted groundwater action plans to agencies Implemented long term monitoring network
Oct 2006	Resumed liquid releases

Braidwood Station – Key Data

- Sampling program
 - Installed over 300 test wells and took over 1800 samples
 - Sampled 370 private wells
 - Lower limit of detection for tritium – 200 pCi/l (10% of required LLD, 1% of drinking water standard)
 - No other radionuclides detected
- Six off-site properties impacted
- Observed tritium concentrations due to releases
 - One private well affected at ~8% of drinking water standard
 - Small area of groundwater affected at ~10 times drinking water standard



Braidwood Station – Key Data

- Root cause and corrective actions
 - Source is historical releases from vacuum breakers on discharge line, primarily in 1998 and 2000
 - Releases were confined to site; later entered groundwater
 - Inadequate follow up to determine long-term effect of releases
 - Minimal notifications made
 - 2000 root cause corrected source of major releases
 - 2006 root cause addressed inadequate response to historical releases
- Remediation processes
 - Active remediation in progress at two locations
 - Disposal of water through normal discharge line after modifications
 - Cleanup projections 8-10 years (to LLD)
 - Monitored natural attenuation at four locations

Fleet-Wide Response

- Initiated fleetwide assessment for extent of condition
 - February – September 2006
 - Managed at corporate level; dedicated teams at each site
 - Communicated plan and results to public
- Assessed material condition and potential vulnerability of each system that could contain radionuclides
- Assessed site groundwater – 500 wells
 - Hydrogeology
 - Tritium and other radionuclides
- Implemented enhanced monitoring network and procedures
- Identified measures to reduce leakage vulnerability
- Implemented enhanced reporting thresholds

No other sites identified off-site impacts

Issues and Learnings

- Communication and public confidence
 - Factors influencing public reaction
 - Lack of notification for previous releases
 - Uncertainty and skepticism about extent and effects, despite consistent message of no health and safety impact
 - Concern for property value
 - Actions
 - Door to door contact
 - Resident meetings and community information forums
 - Website and hot line
 - Media and agency outreach
 - Goodwill efforts - bottled water and village water supply

Issues and Learnings

- Strengthened response and monitoring processes
 - Integrated environmental and radiological response procedures
 - Enhanced monitoring network
 - Strengthened guidance for 50.75(g) compliance
- Federal vs. state regulation