



Chem-Nuclear Annual Update

Prepared for the Governor's Nuclear Advisory Council Meeting
April 14, 2016

South Carolina Department of Health and Environmental Control

Promoting and Protecting the Health of the Public and the Environment

Started
operating in
1971

Barnwell LLRW Disposal Facility

Trench Areas

120 acres capped

Site Buildings

235 acres used for disposal and site buildings



Groundwater and Surface Water Monitoring the Tritium Plume

- Chem-Nuclear samples 180 monitoring locations
 - On-site wells
 - Off-site wells
 - Creek
- Sampling performed 4 times per year
- DHEC samples at least 21 of those locations
- DHEC splits samples with Chem-Nuclear



Tritium Concentrations in Zone 2 Wells

2nd
 Quarter
 2015

Highest
 Concentration

WM-0110

11,900,000 pCi/L

Oldest
 trenches

Headwaters of Creek

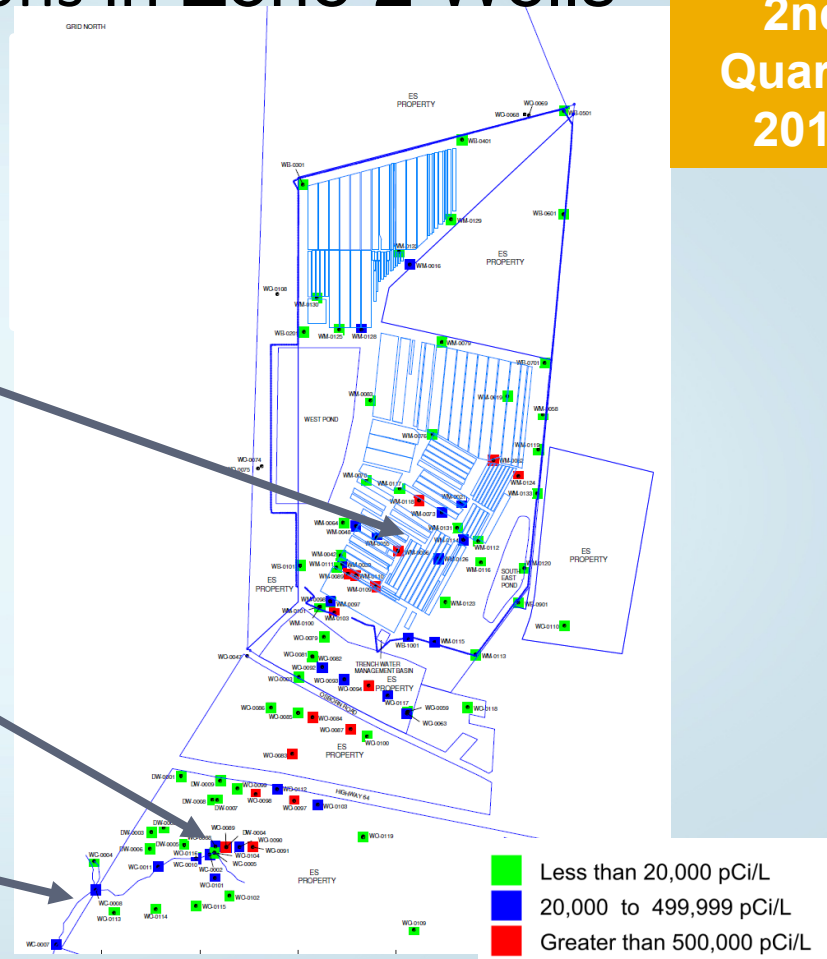
WC-0002

273,000 pCi/L

Compliance Point

WC-0008

85,100 pCi/L





Annual Trending Report

- Monitors plume movement
- Looks at data for last 5 years
- 27 locations
- Statistical analysis
- 5 – upward trend
- 18 – downward trend
- 4 – no trend

Tritium levels are closely monitored at the compliance point to be sure they do not exceed regulatory limits

Tritium levels are stable at compliance point

The plume is well defined

There are no receptors of the water



License Appeal Update

- March 2004 – DHEC renewed the Chem-Nuclear Systems (CNS) License #097.
- April 2004 – DHEC’s Decision was appealed by Sierra Club and Environmentalists, Inc.
- October 2005 – The Administrative Law Court (ALC) issued order affirming the license renewal. Sierra Club appealed.



License Appeal Update (cont.)

- March 2010 – The SC Court of Appeals issued its order affirming in part and remanding in part to the ALC with instructions to make specific findings and conclusions on whether CNS is in compliance with Sections 7.10.5 - 10; 7.11, and 7.23.6.



License Appeal Update (cont.)

- May 2010 – Motion for rehearing denied by Court of Appeals.
- July 2011 – Petition for Writ of Certiorari denied by the SC Supreme Court.
- July 2012 – The ALC issued its order on remand affirming that CNS was in compliance with the remanded portions of the regulation, subsections 7.10.5 - 10, 7.11, and 7.23.6.



License Appeal Update (cont.)

- August 2012 – Sierra Club appealed the ALC's order to the SC Court of Appeals.
- February 5, 2014 – Hearing before the Court of Appeals.
- July 2014 – Court of Appeals confirmed in part and reversed in part DHEC's decision to renew license. Court ordered DHEC and CNS to prepare a compliance plan within 90 days for ALC to determine compliance and approve or revoke license.



License Appeal Update (cont.)

- August 2014 – Both DHEC and CNS filed Petitions for Rehearing; CNS also filed Motion for a Stay of order’s requirements. A Stay was granted August 28, 2014.
- August 2015 – Court of Appeals withdrew, substituted and re-filed their opinion, still finding DHEC failed to enforce four subsections of regulation 61-63, and remanded back to DHEC for further proceedings.



License Appeal Update (cont.)

- On remand, DHEC shall consider all available information as to whether CNS has complied with the regulations.
- On appeal to the ALC, it may conduct its proceedings with no limitations on evidence it may consider.
- CNS filed a Petition for Writ of Certiorari with SC Supreme Court on September 11, 2015.
- DHEC filed a Return to the Petition on October 13, 2015, as did the Sierra Club.
- The Petitions are still pending before the Court.



South Carolina Department of Health and Environmental Control

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