



Chem-Nuclear Annual Update

Prepared for the Governor's Nuclear Advisory Council Meeting
January 9, 2014

South Carolina Department of Health and Environmental Control

Promoting and Protecting the Health of the Public and the Environment



South Carolina Department of Health and Environmental Control
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Started
operating in
1971

Barnwell LLRW Disposal Facility

Trench Areas

120 acres capped

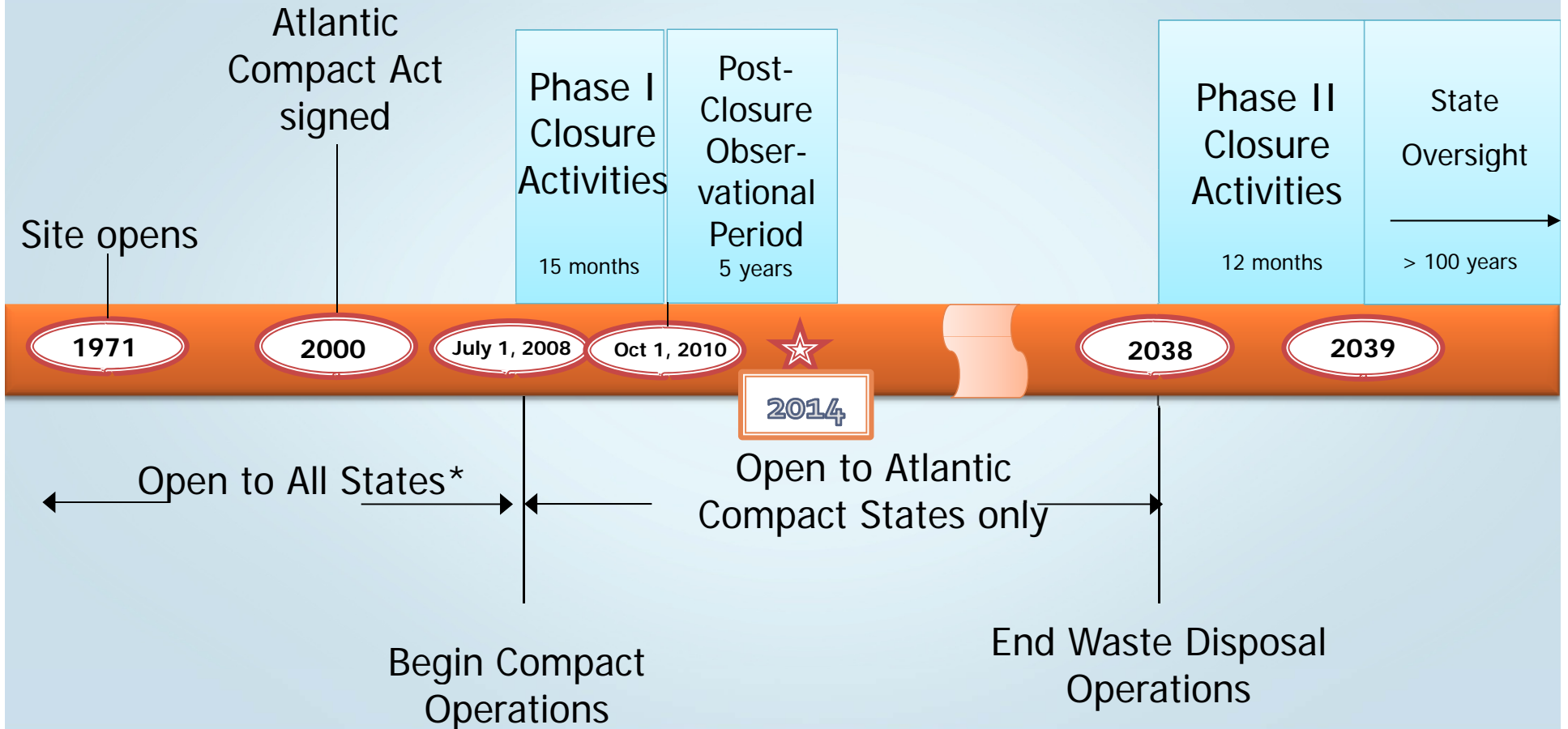
Site Buildings

235 acres used for disposal and site buildings





Projected Timeline



*NC was banned in 1995



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Status of Chem-Nuclear Site

- Atlantic Compact Operations only
- Phase I closure activities are complete
- 86% of site is in 5-year postclosure observation period
- Extensive documentation showing 16 performance objectives listed in the license have been met





License Appeal Update

- March 2004 - DHEC renewed the Chem-Nuclear Systems' (CNS) License
- April 2004 - DHEC's Decision was appealed by Sierra Club and Environmentalists, Inc.
- The Administrative Law Court (ALC) dismissed Environmentalists, Inc. based on lack of standing



License Appeal Update (cont.)

- October 2005 - The Administrative Law Court issued its order affirming the license renewal
- March 2010 - The SC Court of Appeals issued its order affirming in part and remanding in part to the Administrative Law Court with instructions to make specific findings and conclusions on whether Chem-Nuclear 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 Certiorari denied by the SC Supreme Court
- July 2012 - The Administrative Law Court issued its order on remand affirming that Chem-Nuclear was in compliance with the remanded portions of the regulation, Section 7.10.5 - 10, 7.11, and 7.23.6



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License Appeal Update (cont.)

- August 2012 - Sierra Club appealed the Administrative Law Court's order (7-20-12 order) to the SC Court of Appeals
- **February 5, 2014 - Scheduled hearing date before the Court of Appeals**

Groundwater and Surface Water Monitoring the Tritium Plume

- Chem-Nuclear samples 178 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
 2013

Highest
 Concentration

WM-0110

18,600,000 pCi/L

Headwaters of Creek

WC-0002

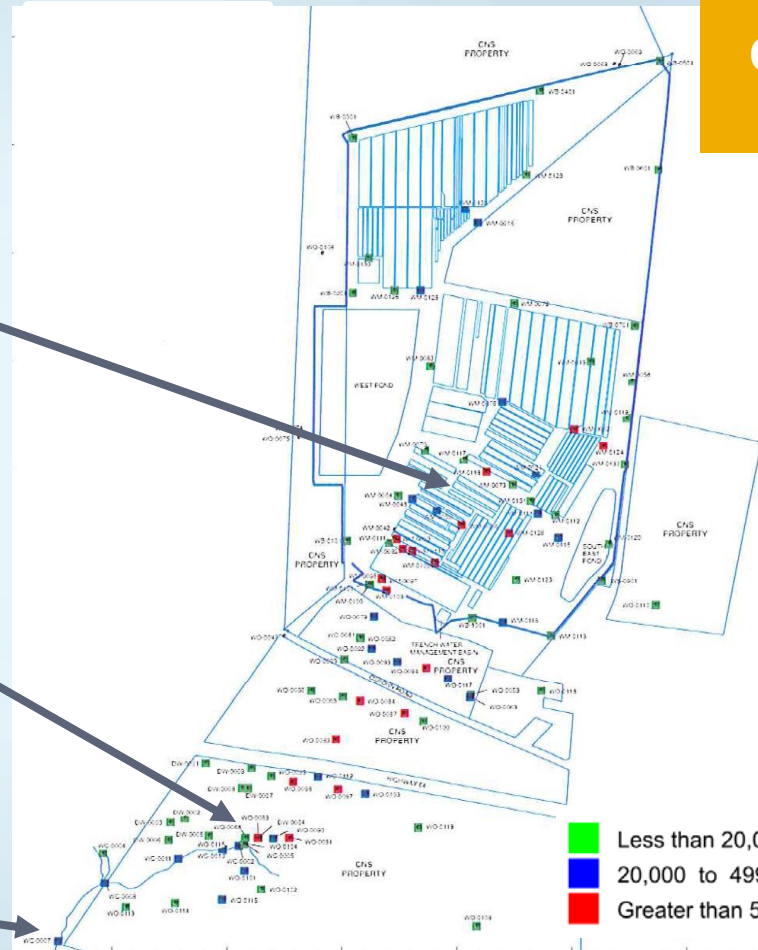
311,000 pCi/L

Compliance Point

WC-0008

81,200 pCi/L

Oldest
 trenches





Annual Trending Report

- Monitors plume movement
- Looks at data for last 5 years
- 27 locations
- Statistical analysis
- 6 – upward trend
- 11 – downward trend
- 10 – 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



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