



North Carolina Department of Environment and Natural Resources

Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
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November 17, 2010

Honorable Lisa Jackson, Administrator
United States Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Ave., N.W.
MC 1101A
Washington, DC 20460

Hazardous Waste Management System
Identification and Listing of Special Wastes
Disposal of Coal Combustion Residuals
From Electric Utilities Docket
Attention Docket ID No., EPA-HQ_RCRA-2009-0640
Environmental Protection Agency
Mailcode:5305T
1200 Pennsylvania Ave., NW
Washington, DC 20460

Dear Administrator Jackson,

I am writing to provide an overview of concerns regarding the June 21, 2010, proposed rule entitled *Hazardous and Solid Waste Management System; Identification and Listing of Special Waste; Disposal of Coal Combustion Residuals (CCRs) From Electric Utilities*. I have also enclosed more technical comments on the alternative rule proposals for submission in the rulemaking docket. Comments represent input from three divisions within the Department of Environment and Natural Resources, which include the Division of Waste Management, the Division of Water Quality, and the Division of Land Resources.

The proposed rule details an option for regulating disposal of coal combustion residuals under Subtitle C of RCRA, and an alternative of regulating disposal of those materials under Subtitle D of RCRA. The two alternatives include many of the same proposed technical requirements for disposal of coal combustion residuals in surface impoundments or landfills. The North Carolina Division of Waste Management, Department of Environment and Natural Resources (NCDWM) believes that the core requirements shared by the two alternatives take appropriate steps toward addressing the risks from the disposal of CCRs.

The Division does not believe, however, that either of the alternatives proposed is completely satisfactory. We have two primary concerns; 1. the potential negative consequences of regulation under Subtitle C of RCRA; and 2. the absence of certain specific requirements under Subtitle D that would ensure responsible use or disposal of these materials. As a result, the Division recommends that these materials should be addressed through an enhanced regulatory scheme under Subtitle D of RCRA.

North Carolina, along with EPA and other states across the country, promotes the reuse and recycling of solid waste. A significant percentage of coal combustion residuals generated in North Carolina are reused or recycled. Regulation of CCRs destined for disposal as a hazardous waste under RCRA will have a chilling effect on an important industry that is reducing the volume of CCRs disposed. There are options available to address risks from the disposal of CCRs that avoid this undesired effect.

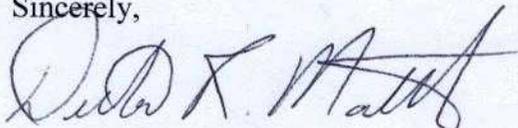
NCDWM proposes that EPA regulate CCRs under Subtitle D of RCRA with modifications to the current proposal. Rule changes -- and if necessary statutory changes -- should be made to make federally approved state permitting programs the foundation for regulating CCR disposal. EPA should also provide financial incentives for states to implement federal criteria through state solid waste programs.

A system of prior approval exists in most, if not all, states that will ensure greater consistency across the country than the current self-implementing proposal under Subtitle D. Regulation under Subtitle D should embrace the existing state permitting programs. A federal approval role would ensure that those permitting programs meet or exceed minimum national criteria for CCR disposal. The implementation schedule for a final rule under Subtitle D would need to allow time for states to make necessary changes in existing state rules and statutes to incorporate federal criteria.

One element that should be added to regulation under Subtitle D is a requirement for financial assurance. Financial assurance for closure, post closure care, and corrective action should be included in the final rule as a mechanism to ensure that funds will be provided by owner and operators to carry out these activities.

With an enhanced regulatory system under Subtitle D that recognizes state permitting programs and provides financial incentives for states to implement federal criteria, EPA can address the risks of disposal of CCRs without risk of damaging existing reuse and recycling markets.

Sincerely,



Dexter R. Matthews

cc: Robin Smith, NC DENR
Coleen Sullins, NC DENR DWQ
Jim Simons, NC DENR DLR

Enclosure

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Existing Programs with Regulatory Authority

Three divisions in the North Carolina Department of Environment and Natural Resources (DENR) have a role in the oversight of coal combustion residuals (CCR) management (Division of Land Resources (DLR), Division of Waste Management (DWM) and Division of Water Quality (DWQ)). As background for these comments and in response to EPA requests for information, current authority for each of the existing state programs is described below.

Dam Safety: The Division of Land Resources (DLR) implements the North Carolina Dam Safety Law. The Dam Safety Law of 1967 (NCGS 143-215.23) was amended in 2009 to include dams at non-nuclear power generation facilities formerly under jurisdiction of the North Carolina Utilities Commission, effective January 1, 2010. This includes CCR disposal facilities involving or formerly involving sluiced waste delivery. From the effective date, activities involving construction, alteration, repair, or removal of dams at these facilities require prior written approval from the DLR in accordance with regulations 15A NCAC 2K. In addition, the statute and regulations require approved activity to be performed under supervision by an engineer legally qualified in the state of North Carolina. These facilities are now included in the inspection program authorized by NCGS 143-215.32 and detailed in 15A NCAC 2K .0217 and .0301, and are subject to all enforcement procedures authorized by NCGS 143-215.36 and detailed in 15A NCAC 2K .0302, .0401 and .0402. It should be noted that regulatory authority for prescribing minimum release requirements from dams to support aquatic habitat is provided by NCGS 143-215.31 and is detailed in 15A NCSC 2K .0500.

CCR Landfills: The North Carolina Division of Waste Management (DWM) implements North Carolina Solid Waste law and regulations that apply to coal combustion residuals generated as a dry CCR.

North Carolina has eight landfills that currently receive CCR and two closed CCR landfills. These landfills are built to RCRA Subtitle D Part 257 standards and according to North Carolina industrial sanitary landfill regulations. Five of the active landfills are lined with a single liner or a single composite liner, and groundwater is monitored by wells at the compliance review boundary. Three of the active landfills are sited on previously used CCR (dry) impoundments or landfills. These landfills have a double liner with a leak detection system between the liners. Monitoring wells are not required at these facilities. Compliance is determined based on monitoring of the leak detection system. The closed unlined landfills are under post-closure care, including groundwater monitoring and maintenance of the landfill cap.

The North Carolina Solid Waste Management program includes statutes and rules pertaining to the following aspects of siting, design and operation of CCR industrial landfills:

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- Landfills must be permitted according to North Carolina regulations NCAC 13B .0503 and .0504
- Location restrictions address depth to groundwater and distance to surface waters, wetlands, floodplains and parks.
- Design criteria include a leachate collection system, closure cap and a composite liner, or alternately, the permittee must show that the design of the landfill will ensure that groundwater standards will not be exceeded at the compliance boundary. All active CCR landfills in North Carolina are lined.
- CCR industrial landfills in North Carolina are inspected on a regular basis by Division of Waste Management staff.
- Groundwater detection monitoring is conducted at least semi-annually by the facility and reported to the Division of Waste Management.
- Requirements for assessment monitoring, assessment of corrective measures, selection of remedy and implementations of the corrective action regulations are defined.
- Closure criteria and post-closure care requirements are included.
- All plans and reviews of applications and reports require approval by the Division of Waste Management before construction, operation, monitoring, assessment, corrective action, closure, or post-closure can occur.

CCR structural fills and beneficial reuse of dry CCR : North Carolina has approximately 75 inactive CCR structural fills. The structural fills were primarily built after regulations became effective in 1994. Regulations 15A NCAC 13B .1700, *Requirements for Beneficial Use of Coal Combustion By-Products*, include requirements that the user give DWM notice of intent to construct and a final certification that construction was done according to regulations. The rules also set out siting, design, construction, operation, closure, and recordation requirements. The regulations also allow beneficial use of CCR without a permit as:

- Soil nutrient additives under the authority of the North Carolina Department of Agriculture;
- Traction control material or road surface material if approved by the North Carolina Department of Transportation;
- A manufacturing component in products including concrete products, lightweight aggregate, roofing materials, plastics, paint, and roller-compacted concrete;
- A substitute for materials or products such as blasting grit, roofing granules, filter cloth precoat for sludge dewatering and pipe bedding
- A stabilized structural fill product which is produced with a cementitious binder and compacted for the constructed end use.

The regulations also require that generators of CCR report annually to DWM the amount of CCR produced, disposed, used in structural fills and used for other uses described above.

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CCR surface impoundments: The North Carolina Division of Water Quality (DWQ) regulates disposal of CCR under the following programs:

NPDES Wastewater Strategy: The National Pollutant Discharge Elimination System (NPDES) program regulates wastewater discharges to surface waters to ensure that surface water quality standards are maintained. The U. S. Environmental Protection Agency (EPA) delegated this program to the state of North Carolina. Additional North Carolina statutes and rules are found at G.S. 143-215.1 and 15A NCAC 2H.0100- *Wastewater Discharges to Surface Waters*. Currently, there are 14 coal-fired power plants in North Carolina that are covered under individual NPDES permits.

- **Technology-Based Effluent Limits.** Discharges from coal plants to surface waters are subject to Federal EPA technology-based effluent limits found at 40 CFR 423- *Steam Electric Power Generating Point Source Category*. These federal guidelines cover discharges of fly ash and bottom ash transport water from coal ash ponds.
- **Water Quality-Based Effluent Limits.** Discharges to surface waters may also include effluent limits based on protection of state surface water quality standards (per 15A NCAC 2B.0200) or EPA water quality criteria.
- **Ash Pond Structural Integrity Inspection.** Responsibility for inspecting ash pond dams falls under jurisdiction of the Dam Safety Program within the Division of Land Resources (DENR) in accordance with 15A NCAC 2K.
- **Groundwater Monitoring.** Ash ponds regulated under NPDES permits are further regulated by rules for North Carolina groundwater standards found in 15A NCAC 2L. These rules require regulatory boundaries (e.g. Waste Boundary, Compliance Boundary) around all waste disposal areas. Action to be taken regarding exceedances of groundwater standards at the Compliance Boundary are in accordance with State Rules 15A NCAC 2L .0106. In December 2009, DWQ sent a letter to the 14 coal-fired power plants in the state, directing them to place wells at their Compliance Boundaries to help determine if any groundwater exceedances exist.

NPDES Stormwater Strategy: The NPDES program also regulates stormwater discharges to surface waters that are associated with industrial activity. Under 40 CFR 122, Category vii, steam electric-generating facilities, including coal handling sites, are subject to NPDES stormwater permitting requirements.

The DWQ Stormwater Permitting Unit has researched potential stormwater contaminants from coal combustion and formulated a consistent strategy for renewal of permits in 2009. This strategy includes:

- Stormwater semi-annual monitoring for 13 priority metals, including Mercury (Hg)
- Stormwater semi-annual monitoring for COD, TSS, pH, sulfates, and Oil & Grease
- Permits include “benchmark values” that are not limits. These benchmarks trigger responses under the facility’s Stormwater Pollution Prevention Plan (SPPP), and may include more frequent (monthly) monitoring.

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DWQ is also investigating the potential influence of coal ash constituents on concrete ready-mix wastewater discharges.

Beneficial Reuse Permitting

DWQ regulates beneficial uses of coal combustion residuals (CCRs) that are defined as wastewater treatment residuals. Applicable North Carolina statutes and rules are found at G.S. 143-215.1; 143-215.3(a) and 15A NCAC 2T.1200-*Coal Combustion Products Management*. The beneficial uses of CCRs allowed in North Carolina include the following:

- manufacturing component of products in which the CCRs are encapsulated in the manufactured product (e.g., concrete, brick, asphalt, plastics, etc.)
- fuel for combustion in boilers, furnaces, etc.
- cover and other uses at a landfill
- material for traction control during snow or ice events
- substitute for blasting grit, roofing granules, and filter cloth pre-coat for residuals dewatering
- flowable fill for backfill of trenches; raw product for the stabilization of residuals;
- soil nutrient additive, amendment, or other agricultural purpose;
- overlay for roads, residential driveways, farm roads, and high-traffic farm areas
- bedding for pipes, railroad beds, and underground storage tanks; and structural fill

Currently, most of the beneficial uses of CCRs are deemed permitted under 15A NCAC 2T.1203. However, prior to some uses of un-encapsulated CCRs (e.g., agricultural uses, traction control, etc.), CCRs must meet leachate concentration limits. For land application, CCRs must also meet pollutant limits listed in 40 CFR 503.13.

Prior Approval Under Subtitle D Approach is Needed:

A system of prior approval of design and operational plans, such as the permitting system used in North Carolina, should be included in the regulations. A state agency should issue the prior approval for CCR disposal facilities.

Existing state programs should have the ability to gain EPA program approval to implement permitting, inspection/enforcement and other oversight of the CCR landfills and surface impoundments under RCRA Subtitle D.

Groundwater monitoring and air criteria should be reported to the state program.

Prior approval from the state program should be required for assessment monitoring plans, assessment of corrective measures, selection of remedy and implementations of the corrective action regulations, closure plans and post-closure care plans.

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Landfill Construction Standards and Monitoring System Alternatives needed:

Liner Requirement: The proposed EPA regulations require two components for a composite liner: minimum 30-mil flexible membrane (HDPE must be 60 mil or greater) and a two-foot layer of compacted soil consisting of 1×10^{-7} hydraulic conductivity or less.

Comment: The range of site suitability characteristics and the scarcity of adequate clay for use in the required composite liner system (this is especially true in North Carolina) will make alternate liner designs a necessity. Alternative liner designs should be based on engineering comparisons and groundwater modeling that shows performance at the compliance boundary.

Groundwater Monitoring: The proposed regulations would require landfills to have groundwater monitoring with a minimum of one upgradient and three downgradient wells.

Comment: For the past several years, North Carolina has allowed by practice and then required by statute that landfills located on inactive (and dry) impoundments have a double liner with a leak detection zone. Alternative methods to detect releases from CCR landfills to groundwater, such as use of a leak detection system, should be allowed in the regulations.

Surface Impoundment Construction Standards:

According to the proposed regulations, new and retro-fitted impoundments will require a composite liner, with the upper component consisting of a minimum 30-mil flexible membrane liner (FML) and the lower component consisting of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. The FML component must be installed in direct and uniform contact with the compacted soil component.

Comment: The placement of the lower component (two feet of compacted clay) would be difficult or impossible due to the wet conditions of active impoundments and the scarcity of adequate clay for use in the liner system (this is especially true in North Carolina). Alternative but equivalent surface impoundment designs are needed in the regulations.

Note errors in the following proposed regulations: §257.71 *Design Criteria for Existing CCR Surface Impoundments* (a)(1) and §257.72 *Design Criteria for New CCR Surface Impoundments and Lateral Expansions* (a)(1) should read:

“With a composite liner as defined in paragraph (a)(2) of this section and a leachate collection system ~~between~~ above the upper ~~and lower components~~ component of the composite liner. The design of the composite liner and leachate collection system must be prepared by, or under the direction of, and certified by an independent registered, professional engineer.”

Distance to Groundwater:

§257.60 *Placement above the natural water table* (a) should read:

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“(a) New CCR landfills and lateral expansions and New CCR Surface impoundments and lateral expansions must be constructed with a base that is located a minimum of ~~two~~ four feet above the upper limit of the natural water table.”

The above clarifies that lateral expansions of landfills must meet the standard, and that the distance from the liner to the upper limit of the natural seasonal high water table should be increased from two feet to a minimum of four feet, as is required in North Carolina.

Statistical Analysis of the Groundwater:

The proposed regulations require statistical analysis to demonstrate real background concentrations and alternative potential contaminant sources.

Comment: Statistical analysis can be useful, but many data points are needed for a valid statistical analysis on environmental data. It could take years to cross the minimum required data threshold; therefore, statistical analysis may not be an appropriate tool by itself given the extended time period needed for it to function properly.

An alternative to the use of statistical analysis should be allowed. The EPA should require that an exceedance of established groundwater standards trigger the groundwater assessment and corrective action requirements.

Additional Structural Fill Regulations Needed:

Within the definition of a landfill, “large scale fill” is not defined. We propose that the EPA quantify the size of the fill and take “large scale” out of the definition § 257.40 *Disposal standards for owners/operators of CCR landfills and CCR surface impoundments. (a)(2)*:

“*CCR Landfill* means a disposal facility or part of a facility where CCRs are placed in or on land and which is not a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit. For purposes of this proposed rule, landfills also include piles, sand and gravel pits, quarries, and/or, ~~large-scale~~ fill operations where CCR exceeds 5,000 cubic yards. Sites that are excavated so that more coal ash can be used as fill are also considered CCR landfills.”

For all of the (small) structural fills not regulated under the definition of CCR landfill, regulation is needed by EPA, including:

- Designated end use encapsulating fill on top. End use includes: embankments, foundations, construction foundations, and for bases/sub-bases under a structure or a footprint of a paved road, parking lot, sidewalk, walkway, or similar structure
- Fill must be completed within certain time period. (NC DENR suggests 18 months.)

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- Separation to groundwater from waste equal to or exceeding two feet
- Limit the type of soil under fill to specific soil types (cannot be built on coarse sand, gravel, or within areas of Karst topography)
- No excavation allowed before fill placement
- Groundwater and dust monitoring requirements (It should be noted that lead, arsenic, and sulfate consistently exceed the North Carolina groundwater standards at a structural fill in the state.)

Beneficial Uses:

Regardless of whether Subtitle C or D is chosen, it is important that beneficial use (encapsulated and unencapsulated) is better defined within the proposed regulations. The regulations should include clarification on the use of CCR as fill material. More evaluation should be conducted for both encapsulated and unencapsulated uses of CCRs, and detailed guidance should be developed regarding beneficial use. EPA-established guidance and regulations will assure better consistency in requirements from state to state.

For storage prior to beneficial use, North Carolina's current administrative code (15A NCAC 2T.1206) requires setbacks from surface waters, water supply sources/wells, and the seasonal high water table. EPA should consider these provisions in the federal rules to address concerns regarding stockpiles, storage duration, potential surface runoff or groundwater contamination.

Definitions for: "Active life"/"Existing" CCR Landfill/"Surface Impoundment"

"Active life", according to the proposed regulations, refers to the time period from initial placement of CCR to closure of the landfills and surface impoundment. This cradle-to-grave approach is in conflict with the definition for "existing" which requires that the landfill or surface impoundment be "in operation" as of the date of the regulations. The Subtitle D approach would be more protective if it considered, at a minimum, all of the landfills and impoundments which did not obtain proper closure as "existing".

A "surface impoundment" or landfill will still pose a threat to the environment even after it no longer receives waste. This risk will be minimized when impoundment closure requirements, including cap and cover, are met. We propose that a surface impoundment be considered active until it meets closure requirements.

(Note reference error in proposed regulation § 257.40 *Disposal standards for owners/operators of CCR landfills and CCR surface impoundments. (a)(2) Definitions:*

"Active life means the period of operation beginning with the initial placement of CCRs in the landfill or surface impoundment and ending at completion of closure activities in accordance with § 257.110. § 257.100.")

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Financial Assurance:

EPA should include regulations requiring financial assurance to cover the costs of future corrective actions, closure and post-closure care.

Comment and Supporting Information Solicited In the Federal Register:

The following is in response to EPA's solicitation for comments on beneficial use, stigma, general comment on co-proposals (including subtitle C and D), Surface Impoundment Closeout, and damage cases:

Beneficial Use

- **EPA Request:** Information and data on the extent to which states request and evaluate CCR characterization data prior to the beneficial use of unencapsulated CCRs.

Response: Unencapsulated CCR must meet both the ceiling concentration limits and monthly average concentration limits established in 40 CFR 503 for the distribution of residuals. The analysis results must be submitted prior to the use of CCRs and annually thereafter for land application.

- **EPA Request:** Whether certain uses of CCRs (e.g., uses involving unencapsulated uses of CCRs) warrant tighter control and why such tighter control is necessary.

Response: Additional evaluation is recommended for agricultural use (land application) and structural fill, where large volumes of CCRs are involved, to determine if tighter controls such as pollutant limits and setbacks are required due to potential causes of groundwater and surface water contamination. In addition, to better protect groundwater resources, liners should be required for a large-scale structural fill.

- **EPA Request:** Is it necessary to better define beneficial use or develop detailed guidance on the beneficial use of CCRs to ensure protection of human health and the environment? (Including: Should certain unencapsulated beneficial uses be prohibited?)

Response: It is necessary to better define beneficial use and develop detailed guidance, since there are many unclear aspects of the beneficial use of CCRs. At a minimum, the rules should define and clarify the following: encapsulated and unencapsulated uses; large-scale fill

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operations; structural fill; agricultural beneficial uses; and any unencapsulated uses that involve large volumes of CCRs that may be prohibited due to potential impacts to the environment.

- **EPA Request:** If characterization of materials is required, what type of characterization is most appropriate? If the CCRs exceed the toxicity characteristic at pH levels different from the TCLP, should they be excluded from beneficial use? When are totals levels relevant?

Response: Risk analysis for potential pollutants in CCR that are not currently included in 40 CFR 503 should be conducted to determine if additional pollutant limits are needed for CCR. The risk analysis and requirements need to be specific, such as “a distance of 100 feet from storage or land application of CCRs to a ground water receptor is required”. It is also recommended that CCRs that exceed the toxicity characteristic at pH levels different from the TCLP should be excluded from beneficial use if the material will be exposed to such pH levels for extended periods of time.

- **EPA Request:** Historically, EPA has proposed or imposed conditions on other types of hazardous wastes used in a manner constituting disposal (e.g., maximum application rates and risk-based concentration limits for cement kiln dust used as a liming agent in agricultural applications- see 64 FR 45639; August 20, 1999) and maximum allowable total concentrations for nonnutritive and toxic metals in zinc fertilizers produced from recycled hazardous secondary materials (see 67 FR 48393; July 24, 2002). Should EPA establish standards, such as maximum/minimum thresholds, or rely on implementing states to impose CCR site-specific limits based on front-end characterization that ensures individual beneficial uses remain protective?

Response: EPA should establish standards to ensure that beneficial uses of CCR are protective of human health and the environment and to ensure consistency in management of these materials throughout the country. Standards should include storage specifications and operational requirements of the CCR until such time as the CCR is incorporated into a product.

- **EPA Request:** Whether additional beneficial uses of CCRs have been established, since the May 2000 Regulatory Determination, that have not been discussed elsewhere in today’s preamble. The Agency solicits comment on any new uses of CCR, as well as the information and data which support that CCRs are beneficially used in an environmentally sound manner.

Response: North Carolina approves CCR use for the uses listed in EPA’s May 2000 Regulatory Determination. North Carolina has not established additional beneficial uses of CCRs since the adoption of the rules 15A NCAC 02T.1200 in 2006.

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- EPA Request: Is the subtitle “D prime” option as protective of human health and the environment?

Response: The subtitle “D-Prime” modification allows the continued operation of wet storage impoundments for the rest of their “useful life.” Based on the findings presented in the proposed language and current documented damage cases, these sites have a potential to cause, or are currently causing, groundwater contamination. Allowing facilities to continue operating these surface impoundments without having to properly close them or install liners does not provide the best option for the protection of human health and the environment. Regulation under Subtitle D, but with additional provisions to address issues not covered in the Subtitle D provisions, is the best option. The use of Subtitle D could be protective if the rules address concerns raised by these comments and the program is implemented through state permitting programs that meet minimum federal standards.

Damage Cases

- EPA Request: EPA requested a response from the State on a report submitted to EPA on February 24, 2010 by the Environmental Integrity Project and Earth Justice.
- Response: The February 24, 2010 report “Out of Control: Mounting Damages from Coal Ash Waste Sites” addresses the following six North Carolina sites that have on-site coal ash storage:
 - Sutton Steam Plant, Progress Energy – Wilmington, NC
 - Lee Steam Plant, Progress Energy – Goldsboro, NC
 - Cape Fear Steam Plant, Progress Energy – Moncure, NC
 - Asheville Steam Electric Plant, Progress Energy – Arden, NC
 - Belews Creek Steam Station, Duke Energy – Belews Creek, NC
 - Swift Creek Landfill, ReUse Technology, Inc./Full Circle Solutions, Inc. - Rocky Mount, NC

Surface impoundments: Overall, the levels of data reported are accurate; however, the data reported was from wells located inside the State Compliance Boundary, with the exception of Sutton Steam Plant. (The State Compliance Boundary establishes the location at which groundwater standards must be met; exceedance of the state groundwater standard can be allowed within the compliance boundary as long as the groundwater standard is met at the boundary.) In addition, there is no reference in the report to background or naturally occurring concentrations, which may be applicable to several of the listed exceedances. As for groundwater contamination approaching property lines, with the exception of the Sutton Steam Plant data submitted to DENR has not indicated this. Although corrective action has not been required due to lack of documentation for non-compliance, DWQ has sent a letter to both Progress and Duke Energy, directing them to place wells at their Compliance Boundaries to help DENR determine if further action will be required.

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As for Sutton Steam Plant, in 1987 a Notice of Non-Compliance was sent to the Carolina Power and Light Company (now Progress Energy) concerning chloride and total dissolved solids contamination. More recently Progress Energy noted exceedances of several constituents and submitted a site assessment plan to the DWQ's Regional Office. This is currently under review to determine what additional action is required in accordance with State Rules 15A NCAC 2L .0106(d).

Belews Creek Steam Station Landfills: Three landfills exist at this site, not the five that the document suggested may be on site. The report assumed that Permits 85-01 and 85-02 are located on the Belews Creek site, when those permits actually refer to permitted facilities elsewhere in the county.

The document also states that "Information obtained does not indicate whether any of these [three landfill] sites are lined". Landfill 85-03 (Pinehall Road) is an inactive unlined landfill that has been closed and capped. 85-04 (Craig Road Ash) and 85-05 (FGD) are active lined landfills.

During efforts by Duke Power to expand the existing Pinehall Road landfill, contamination was found in wells. Assuming that the contamination in the wells at the Pinehall Road landfill may be in part attributable to the landfill (as well as the surrounding ponds and areas of ash on the ground), Duke Power and DWM created a corrective action plan to close and cap the landfill. The cap, consisting of a drainage geonet overlain by a 40 mil LLDPE geomembrane and two feet of soil cover over the entire landfill, was designed to cut off infiltration and thus cut off any continuing contamination under and around the landfill.

Some of the original groundwater wells, which are located at extreme distances from the landfill and in areas where there was waste on the ground, are not representative of the groundwater moving from the landfill. Duke Power worked with the DWM to come up with meaningful groundwater monitoring locations. The report refers to the closure of a number of monitoring wells. These wells were closed because they did not represent what was occurring at the landfill. The document refers to an exceedance during groundwater monitoring events at both of the lined landfills. Craig Rd Ash landfill began accepting waste August 22, 2007; the FGD landfill began accepting waste February 12, 2008. The exceedances noted were found by the DWM to be background levels.

Swift Creek Structural Fill "Landfill": The damage assessment for the Swift Creek site appears essentially accurate.