REPORT OF THE

NORTH CAROLINA UTILITIES COMMISSION

TO THE

JOINT LEGISLATIVE COMMISSION ON GOVERNMENTAL OPERATIONS, THE JOINT LEGISLATIVE TRANSPORATION OVERSIGHT COMMITTEE, AND THE ENVIRONMENTAL REVIEW COMMISSION

REGARDING

THE INCREMENTAL COST INCENTIVES RELATED TO COAL COMBUSTION RESIDUALS SURFACE IMPOUNDMENTS FOR INVESTOR-OWNED PUBLIC UTILITIES IN NORTH CAROLINA

January 15, 2016

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Dear Sirs:

Pursuant to Section 29.18 of Session Law 2015-241 (HB 97), the Utilities Commission hereby presents its report to the Joint Legislative Commission on Governmental Operations, the Joint Legislative Transportation Oversight Committee, and the Environmental Review Commission concerning the incremental cost incentives related to coal combustion residuals (CCRs) surface impoundments for investor-owned public utilities.

Thank you for your assistance.

Very truly yours,

Edward S. Finley, Jr.
Chairman

EXECUTIVE SUMMARY

This report is respectfully submitted to the Joint Legislative Commission on Governmental Operations, the Joint Legislative Transportation Oversight Committee, and the Environmental Review Commission by the North Carolina Utilities Commission.

The 2015 Appropriations Act, Session Law 2015-241 (House Bill 97), Section 29.18, among other things, requires the North Carolina Utilities Commission to submit a report to the above mentioned Commissions and Committee of the North Carolina General Assembly setting forth information concerning incremental cost incentives related to coal combustion residuals (CCRs) surface impoundments for investor-owned public utilities. In particular, such report is to include the following:

(1) The North Carolina Utilities Commission's policy on allowed incremental cost recoupment;

(2) The impact on utility customers' rates under the current policy on allowed incremental cost recoupment; and

(3) Any possible revisions to the current policy on allowed incremental cost recoupment that would promote reprocessing and other technologies that allow the reuse of coal combustion residuals stored in surface impoundments for concrete and other beneficial end uses.

The information presented in this report is provided in response to the areas of inquiry as referenced above. In summary, the report briefly explains:

(a) The North Carolina Utilities Commission's long-standing policy and practice of providing utilities with a reasonable opportunity to recover all reasonable and prudent cost incurred in providing public utility services;

(b) That the selling of CCRs for re-use has resulted in immediate net costs to utilities and, consequently, increased current rates to consumers of electric utility services. However, it would appear that the costs to ratepayers would be even greater should the utilities not re-use CCRs, and instead, store them in surface impoundments;

(c) That current policies and practices appear to be sufficient to incentivize the utilities to continue to repurpose CCRs and to continue to search for new ways to do so; and

(d) That the North Carolina General Assembly may be able to provide other incentives by relaxing, if appropriate, statutory or regulatory constraints that may exist regarding limitations on the use of CCRs, for example, limits that may exist regarding the replacement of cement with CCRs.

The North Carolina Utilities Commission appreciates the opportunity to present this report and information, and would welcome any expansion of or revision to its current cost recoupment policies and/or practices that the North Carolina General Assembly may deem appropriate, and will continue to maintain an open and active dialogue with all interested parties regarding this matter.

BACKGROUND

On September 18, 2015, the Governor signed the 2015 Appropriations Act, Session Law 2015-241 (HB 97), into law. Section 29.18 of HB 97 requires the Commission to undertake the following report:

> By January 15, 2016, the North Carolina Utilities Commission (NCUC or Commission) shall submit a report to the Joint Legislative Commission on Governmental Operations, the Joint Legislative Transportation Oversight Committee, and the Environmental Review Commission on the incremental cost incentives related to coal combustion residuals (CCRs) surface impoundments for investor-owned public utilities (report). The report shall include all of the following:
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> (1) The Utilities Commission policy on allowed incremental cost recoupment.
>
> (2) The impact on utility customers' rates under the current policy on allowed incremental cost recoupment.
>
> (3) Possible revisions to the current policy on allowed incremental cost recoupment that would promote reprocessing and other technologies that allow the re-use of coal combustion residuals stored in surface impoundments for concrete and other beneficial end uses.

Per this legislative requirement, on September 19, 2015, in Docket No. E-100, Sub 146, the Commission issued an Order requesting comments by interested persons on the "the incremental cost incentives related to coal combustion residuals surface impoundments for investor-owned public utilities" that should be considered by the Commission in preparing its analysis. In particular, the Commission invited comment on "[p]ossible revisions to the current policy on allowed incremental cost recoupment that would promote reprocessing and other technologies that allow the re-use of coal combustion residuals stored in surface impoundments for concrete and other beneficial end uses." The Commission Order specifically asked for Dominion North Carolina Power (DNCP), Duke Energy Carolinas, LLC (DEC), Duke Energy Progress, LLC (DEP), and the Public Staff to file comments. It also allowed for reply comments by any party. Each of these parties filed initial comments, including DEC and DEP (jointly, Duke), which filed joint comments. Other parties that also filed comments were Carolina Utility Customers Association, Inc. (CUCA), the North Carolina Attorney General (Attorney General), and the Carolinas Ready Mixed Concrete Association, Inc. (CRMCA). No party filed reply comments.

COMMENTS OF THE PARTIES

DNCP

DNCP discusses that its primary focus for the re-use of coal ash is for concrete and other beneficial re-uses. DNCP states that it actively markets and promotes the sale of CCRs for several encapsulated uses as follows: (1) bottom ash as a lightweight aggregate ingredient in the manufacture of concrete blocks and pavers; (2) bottom ash as a feedstock material in the manufacture of Portland cement;[1] (3) fly ash as a feedstock material in the manufacture of Portland cement; (4) gypsum as an ingredient in the manufacture of wallboard; (5) gypsum (flue gas desulfurization or scrubber by-product) as a feedstock material in the manufacture of Portland cement and (6) cenospheres[2] as a lightweight ingredient in the production of various end products (examples are lightweight cements, bowling balls, textured coatings, anti-skid floor coatings, and cultured marble).

DNCP notes that it does not currently market CCRs for structural fill or agricultural uses. DNCP notes that it does not support the beneficial re-use of CCRs into flowable fills.

DNCP states that the primary benefit from sales of CCRs is in the reduction of ash disposal costs. It states that revenues received from the actual sales of CCRs are not substantial and have a very small impact (credit) on fuel costs. DNCP asserts that the current ratemaking treatment of sales of CCRs is appropriate.

DNCP comments that as the reliance on natural gas-fired generation increases and some coal-fired generation is retired, the amount of residual coal ash that could be reprocessed will also decrease. DNCP states that it continues to evaluate technologies that allow the re-use of CCRs. As an example of such research and evaluation, DNCP states that it is currently investigating certain technology that would substantially remove the carbon from the "as produced" fly ash and allow the resulting product to be marketed as a partial replacement for Portland cement. Additionally, DNCP states that it intends to install carbon reduction technology at one or more of its coal burning facilities. Once that technology is operational, according to the Company, the resulting fly ash will be sold as a marketable material creating opportunities for revenue and significant disposal savings.

Lastly, DNCP states that it is not aware of any revisions to the Commission's current policy on incremental cost recoupment that would further promote reprocessing and other technologies that allow the re-use of CCRs stored in surface impoundments for concrete and other beneficial end uses.

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[1] Portland cement is a basic ingredient of concrete. Concrete is formed when Portland cement creates a paste with water that binds with sand and rock to harden. Portland cement is manufactured through a closely controlled chemical combination of calcium, silicon, aluminum, iron and other ingredients.

[2] Cenospheres are lightweight, inert hollow spheres made largely of silica and alumina and filled with air, typically produced during coal combustion. The cenospheres float to the top when fly ash is stored in wet ponds.

Duke

Duke states in its comments that North Carolina law permits recovery of all reasonable and prudently incurred costs to provide electricity to its customers in base rates pursuant to G.S. 62-133 and in annual fuel and fuel-related charge adjustment clause proceedings pursuant to G.S. 62-133.2. Therefore, contends Duke, rate recovery of costs related to CCRs is no different than recovery of costs associated with capital investment in plant, operation and maintenance of the plant, transmission and distribution facilities, and all other costs associated with providing electric service to customers.

Duke notes that all coal naturally contains inorganic matter from the rocks and minerals found in the coal seam where it was mined, and when that coal is combusted in a boiler to generate electricity, the inorganic matter in the coal becomes coal ash. Duke states that CCRs, the by-products of electric generation at coal-fired facilities, include

> ash produced at operating coal plants (production ash), ash currently stored in basins (surface impoundment ash), as well as gypsum that is a byproduct of the flue gas desulfurization (scrubber) process, which reduces SO_2 emissions. Fly ash (a fine material similar to the consistency of talcum powder) can be re-used in concrete products and projects, including roads, bridges and buildings. It also can be used as structural fill in projects, such as building embankments or filling trenches, when native soil is not readily available or not strong enough to support a structure. Using fly ash in Portland cement in concrete can increase the overall strength of the concrete by up to 30 percent. Bottom ash (a coarser, granular material collected from the bottom of coal-fired boilers) is typically used to replace sand or gravel in the manufacturing process for concrete blocks and pipe. It is also well suited for use in engineered structural fills, embankments and road base. Gypsum is used primarily to manufacture wallboard but is also used for agricultural purposes. The Companies actively market and sell CCR, with 30 percent of the ash and 75 percent of the gypsum generated in North Carolina in 2014 being sold for re-use in concrete, cement, structural fill projects, agriculture uses and wallboard.

Duke states that, for the purposes of its comments, it focuses on the "incremental" cost policies related to the beneficial re-use of CCRs, which are recovered through the fuel clause, G.S. 62-133.2. Duke further states that G.S. 62-133.2(b) requires that the costs recovered through the fuel clause proceeding "be adjusted for any net gains or losses resulting from any sales by the electric public utility of by-products produced in the generation process to the extent the costs of the inputs leading to that by-product are costs of fuel or fuel-related costs." Duke asserts that it has recovered the costs of the net sales of CCRs[3] through the fuel clause since this provision became effective on January 1, 2008.

In discussing the impact on rates for its customers under the current Commission policy, Duke states that its customers have benefited over the years from its cost-effective and reliable coal power plants, including some of the most efficient coal plants in the U.S., which has

[3] Duke notes HB97 specifies CCR surface impoundments; however, Duke's cost recovery for CCRs pursuant to the fuel clause do not delineate between production ash and surface impoundment ash.

resulted in electric rates that have been lower than the national average. Duke notes that it has recovered its investment in these coal-fired generating plants through general rate proceedings and has recovered the cost of the burned fuel via the annual fuel clause proceedings. Duke provided a table in its comments that depicts net (gain)/loss on annual sales of CCR collected by DEC and DEP through the fuel adjustment clause proceedings for the period of 2008 through 2014. The overall result, as shown in the table, is that the sale of CCRs for re-use is a net loss passed through to ratepayers. For the years presented, the average monthly impact to the average residential ratepayer for DEC who uses 1,000 kWh per month is approximately $0.03. For the average residential DEP customer using 1,000 kWh per month, the monthly impact is approximately $0.30.

With regard to possible revisions to the current policy on recoupment, Duke states that it is actively pursuing reprocessing and other technologies for re-use of CCRs for concrete and other beneficial uses and supports consideration of new policies that would promote these activities. Duke notes that there is tension between the time needed for development of new markets, technologies and policies for CCRs re-use, and the state and federal deadlines to remove CCRs from surface impoundments. Duke contends that there are new technologies emerging; however, not all of them are fully mature and ready for deployment, but the potential is there for the future. Based on its active involvement in the pursuit of new technology and reprocessing, Duke offers several observations on the beneficial use of CCRs.

First, Duke notes that the Coal Ash Management Commission (CAMC) extensively considered the beneficial use of CCRs in a report it issued in June 2015. In this report, the CAMC found that the Coal Ash Management Act (CAMA)[4] could be a "game-changer for the beneficial use applications in North Carolina" and recommended that utilities and regulators place more weight on recycling options. The CAMC also recommended that utilities and regulators revisit assumptions regarding alternatives to unlined impoundments, as that is no longer a viable option. Duke further notes that the CAMA required a study be conducted on the market and technology opportunities for CCRs beneficial use in North Carolina.[5] The CAMA also mandates closure of CCRs surface impoundments by no later than December 31, 2019, for high-risk impoundments, by December 31, 2024, for intermediate-risk impoundments and December 31, 2029, for low-risk impoundments. Duke contends that its efforts to meet these strict deadlines may impede its re-use of as much CCRs as it would like, as these deadlines may not permit the development of new technologies and other re-use options.

Duke states that another factor that complicates its ability to re-use CCRs is the United States Environmental Protection Agency's (EPA) final rule on CCRs disposal, which became effective October 19, 2015. This rule allows for the EPA to regulate the disposal of CCRs as solid waste. In this rule, the EPA classified CCRs as non-hazardous waste under Subtitle D of the Resource Conservation and Recovery Act and allows beneficial use of CCRs with some restrictions. Duke states that the regulation applies to all new and existing landfills, new and existing surface impoundments, structural fills, and CCRs piles. The EPA rule extends the closure deadlines, and establishes requirements regarding landfill design, structural integrity

[4] Session Law 2014-122 (Senate Bill 729).

[5] The Electric Power Research Institute (EPRI) is conducting the study on behalf of DEC and DEP. The study is expected to be completed in mid-2016.

design and assessment criteria for surface impoundments when the CCRs will be used for beneficial re-use. However, notes Duke, this could conflict with the CAMA deadlines it is facing.

Duke also asserts that reuse of CCRs sometimes can be restricted by state or national codes or guidelines. For example, the North Carolina Department of Transportation (NC DOT) limits replacement of cement with fly ash at no more than 30 percent. Duke notes that in a letter to the General Assembly in 2014, the NC DOT stated that it had been utilizing fly ash in concrete mixes since 1985. However, in 2010 the NC DOT discontinued this practice over concerns regarding the impending EPA rulemaking on CCRs. Duke contends that a change that could expand the beneficial use of North Carolina-produced CCRs is a relaxation of the CAMA limitation on CCRs as structural fill involving placement of more than 8,000 tons per acre or 80,000 tons or more per project. A study performed by the Georgia Department of Transportation in 2008, which analyzed the effects of coal ash content in roadways and structural fill for roadways over a five-year period, concluded that coal ash was an acceptable substitute for commercial applications such as road base fill, that there were no discernible differences in tests conducted on the fly ash sections and normal fill sections, and that concentrations of regulated metals in groundwater wells surrounding the test section was below applicable drinking water standards and within background levels.

Additionally, Duke notes that coal ash must have consistent carbon content in the range of less than 2.5% in order to be useable in concrete production. By design, many of Duke's boilers cause the carbon content to be well above this percentage.[6] Duke states that it is looking into ways to alter the carbon content to allow the ash to be used in concrete production; however, this could be difficult, as the manufactures of the coal ash manufacturing equipment require, in order to make the investment, assurance of a long-term supply of coal ash to sell. Duke states that, to date, the processors have not been able to secure such a commitment. Other technologies Duke has found that beneficially re-use a significant volume of coal ash include surface mine reclamation, brick production, and plasma technology. Duke asserts that it is also reviewing other technologies, such as the material extraction of rare earth elements and flue gas waste stream technology. Duke notes that any beneficial re-use option must meet all state and federal regulations and be prudent investments for customers.

Public Staff

In its comments, the Public Staff asserts that the Commission policy on cost recoupment generally derives from its ratemaking authority under Article 7 of Chapter 62 of the General Statutes, which is set forth in several sections and is rather broad. Inherent in Article 7 is the principle that before being included in rates, costs must be found by the Commission to be reasonable and prudent. The Public Staff cites four sections within Article 7: (1) G.S. 62-130(a), which requires the Commission to "fix, establish or allow just and reasonable rates" for investor-owned public utilities; (2) G.S. 62-130(d), which requires the Commission to change or revise those rates "from time to time as often as circumstances may require;" (3) G.S. 62-132, which states that rates established by the Commission "shall be deemed just and reasonable;" and

[6] For example, DEC's Marshall Steam Station produces approximately 300,000 tons of fly ash each year with carbon content between 6 to 7 percent, and there are potentially other additives (i.e., ammonia, powder activated carbon, etc.) which can also make the ash not suitable for roadway or concrete projects in its natural state.

4) G.S. 62-133, which sets forth the requirements for fixing rates in a general rate case, where all of a public utility's investment, revenues, and expenses are subject to audit and investigation. The Public Staff contends that rates established in this manner are presumed to be sufficient to enable a utility to recover all of its costs of serving its customers.

With respect to incremental cost recoupment, the Public Staff states that the Commission has often exercised its general ratemaking authority by authorizing a utility to defer in a regulatory asset account incremental costs of an extraordinary nature that, absent deferral, would have a material impact on the utility's earnings. The Public Staff notes that the Commission has authorized cost deferrals related to system restoration after major events (i.e., hurricanes, ice storms, etc.) by allowing the utility to amortize the costs over some period of months or years beginning in the month in which they were incurred, instead of expensing them immediately.[7] The Public Staff further notes that the Commission has also authorized the deferral of other costs, such as expenses related to environmental remediation, for amortization in the utility's next general rate case, but with no return on the amount.[8] Additionally, the Public Staff states that deferrals of incremental capital costs, incremental depreciation expense, incremental property taxes, and incremental operation and maintenance expenses related to a new electric generating plant that begins service while a general rate case is pending or is soon to be filed, have also been allowed.[9]

The Public Staff notes that, pursuant to G.S. 62-136(a), the Commission also has authority, upon its own motion or upon complaint of anyone directly interested, to adjust rates to be charged prospectively if it finds that a utility's existing rates are unjust, unreasonable, insufficient, discriminatory, or violate any laws. The Public Staff adds that pursuant to this authority, the Commission established a procedure in 1990[10] to allow state regulated water utilities to request approval of a surcharge to base rates to allow for recovery of the utilities' incremental cost to comply with new EPA requirements related to the testing for volatile organic chemicals (VOCs). Any water utility that requests approval of a surcharge is required to file certain information with the Commission as well as file a complete and accurate annual report with the Commission. The Public Staff notes that the reasoning behind the report requirements was to allow the Commission to determine whether the additional revenues received from the approved surcharges would cause the utility to earn more than the authorized rate of return (including the additional testing expenses) allowed by the Commission in the utility's most recent general rate case proceeding.

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[7] For example, in Docket No. E-2, Sub 843 in 2003, the Commission authorized Progress Energy Carolinas, Inc. (now DEP) to defer $23.5 million in storm damage costs related to Hurricane Isabel over 60 months with no return on the unamortized balance.

[8] For example, in Docket No. G-9, Sub 333 in 1992, the Commission authorized Piedmont Natural Gas Company, Inc., to defer future costs related to environmental assessments and cleanups. Also, in Docket No. E-2, Sub 894 in 2006, the Commission authorized PEC to defer $15.4 million of estimated environmental accruals associated with its environmental remediation obligations.

[9] Examples cited by the Public Staff of the allowance of such deferrals for new plant in service include Docket No. E-7, Sub 999, in 2012, authorizing DEC to defer certain post-in-service costs related to the Buck Combined Cycle Generating Plant and the Bridgewater Hydro Generating Plant; and Docket No. E-2, Sub 1026, in 2013, authorizing PEC to defer certain post-in-service costs related to the Wayne County Combined Cycle Generating Plant.

[10] See Order Establishing Filing Requirements, Docket No. M-100, Sub 120 (1990).

The Public Staff also discusses the fact that several statutes authorize rate adjustments for changes related to a specific utility cost which are determined to be different from the levels allowed in rates previously established by the Commission. The Public Staff specifically points to two newer statutes: (1) G.S. 62-133.7, which relates to rate adjustments for incremental capital investment and associated costs of complying with federal gas pipeline safety requirements, and (2) G.S. 62-133.12, which relates to incremental depreciation expense and capital costs associated with investment in certain water and sewer system improvements. In addition, the Public Staff cites other statutes which establish annual rate adjustments to recover incremental costs, including those related to the Renewable Energy and Energy Efficiency Portfolio Standard (REPS) and changes in the cost of fuel and fuel-related costs,[11] which specifically provide for adjustments "for any net gains or losses resulting from any sales by the electric public utility of by-products produced in the generation process to the extent the cost of the inputs leading up to that by-product are costs of fuel or fuel-related costs."

Lastly, regarding incentives related to incremental cost recovery outside of a general rate case, the Public Staff states that a procedure that mitigates the effect of regulatory lag on a utility's cash flow and earnings provides an incentive to the utility by eliminating or reducing a disincentive to make certain expenditures. The Public Staff further asserts that it believes that the Commission currently has sufficient tools for providing incentives to utilities for re-purposing or re-using CCRs that is currently stored in surface impoundments for concrete and other beneficial end uses. The Public Staff contends that the Commission can do this by providing for timely recovery of reasonable and prudently incurred incremental costs that produce net revenues for the electric utility and its customers. The Public Staff states that it does not have any additional incentive mechanisms to recommend to the Commission at this time.

CUCA

CUCA states in its comments that it believes the Commission has authority, pursuant to the CAMA, to address cost the recovery of CCRs surface impoundments for investor-owned utilities. CUCA also states that it believes recycling of coal ash into useful products is a worthwhile economic and social goal which is well within the general policy of utility regulation in North Carolina; however, it does not believe that the Commission should offer cost incentives to public utilities for new or expanded coal ash re-use. CUCA believes that that recycling of generation waste is part of the "good corporate citizenship," one that every public utility ought to practice, and the Commission's policy should encourage good corporate citizenship for which no financial incentive should be necessary. Further, CUCA believes that any sale of coal ash for re-use should be credited to consumers to offset the costs of removing CCRs from existing surface impoundments. To the extent that Duke does not adequately search for all re-use purposes of coal ash, CUCA believes the Commission should consider a rate of return penalty for not doing so.

CUCA further states that, in Section 2(a) of the CAMA, a moratorium was provided on cost recovery related to CCRs in surface impoundments that were not included in the utility's cost of service in its most recent general rate case. CUCA states that this moratorium ended on January 15, 2015, and that the purpose of the moratorium was to allow the State to study the

[11] See G.S. 62-133.2.

disposition of CCRs in surface impoundments, including any final rules to be adopted by the EPA on the regulation of coal combustion residuals. CUCA asserts that leading up to the CAMA's enactment, several legislators strongly encouraged Duke to find alternate, productive uses for its coal ash. CUCA states that it is unaware, to date, of any public legislative discussions about paying incentives to utilities in return for finding new or expanded uses for CCRs.

Additionally, CUCA states that the CAMA also required all public utilities which own generating facilities which produce CCRs to issue request for proposals on or before December 31, 2014, and that this request for proposals was intended to elicit information from the marketplace and otherwise on additional productive uses for CCRs. CUCA further states that the utilities are required to present the materials and information received in response to the request for proposals, along with their own assessment of the materials and information gathered, to the Environmental Management Commission (EMC) and the Coal Ash Management Commission (CAMC) on or before August 1, 2016.

CUCA believes that there should be a sharing of any allowed incremental coal ash cleanup costs between utility shareholders and customers. However, CUCA notes that the magnitude of the total cost for the coal ash cleanup and, therefore, the effect on customers' total rates, is currently unknown.

With regard to cost recovery of coal ash cleanup, CUCA suggests the following points be considered by the Commission:

a) cleanup costs should be minimized to limit overall cost exposure;
b) there should be both a cap and a "sunset provision" on the cleanup costs;
c) rate impacts should be minimized to avoid rate shock and prevent the loss of manufacturing production and jobs;
d) there should be a proportional sharing of costs between utility shareholders and the ratepayers;
e) any cash flow to the utilities from recycling coal ash should be credited against cleanup costs;
f) there should be no cost recovery until money is spent on the coal ash cleanup;
g) coal ash cleanup costs should be recovered in fuel costs; but shown as a separate line item on ratepayer bills. Any such approved costs should be spread on a demand basis and subject to an annual true-up;
h) the annual fuel cost review, including any incremental cost recoupment, should be both transparent and auditable;
i) the utilities should not earn a return or profit margin on the coal ash cleanup costs or on any asset investment required for coal ash cleanup; and
j) the cleanup cost recovery should extend over several decades to avoid "rate shock" to the ratepayers.

CUCA adds that with regard to incentives for finding beneficial and productive uses for the coal ash residuals, it is of the opinion that no such incentives should be provided. CUCA states that the Commission does have existing statutory authority to consider the sale of CCRs for concrete and other beneficial end uses. It states that in Senate Bill 3, G.S. 62-133.2 was amended to allow the Commission to consider "any net gains or losses resulting from any sales

by the electric public utility of by-products produced in the generation process to the extent the costs of the inputs that leads to that by-product are costs of fuel or fuel-related costs."

Attorney General

The Attorney General in his comments notes that he previously submitted a letter to the General Assembly encouraging the General Assembly "to direct the appropriate environmental protection, while preventing remediation costs from being passed on to consumers." The Attorney General asserts that the statements made in that letter continue to be relevant.

The Attorney General believes there are four general factors that should not be overlooked in considering future ratemaking policies pertaining to CCRs remediation costs. First, total coal ash remediation costs are potentially very large, between $1 billion dollars and $10 billion dollars, depending on the adopted approach, and passing these costs on to consumers would be burdensome to the consumer. Second, the recovery of some costs from ratepayers is already expressly prohibited in G.S. 62-133.13, which provides that the Commission shall not allow the recovery from ratepayers of "costs resulting from an unlawful discharge to surface waters of the State from a coal ash pond unless the discharge was due to an event of force majeure." An "unlawful discharge" is defined in the statute as "a discharge that results in a violation of State or federal surface water quality standards." The third consideration that the Attorney General discusses is that of prudence. The Attorney General states that, generally, a utility must have acted prudently in order to recover costs, and he notes that evidence derived from various state and other investigations and proceedings is significant in determining prudence. Fourth, all current CCRs disposed of have accumulated due to coal-fired-power production over a span of decades, and many of the coal plants that produced the CCRs are no longer in use. The Attorney General asserts that under general ratemaking principles, it would be questionable to allow a utility to recover costs associated with past operations through an increase in rates from current customers or to double recover costs. The Attorney General then describes the history of what has been included in depreciation expense, including, as the Attorney General states, the cost of removal of ash ponds associated with long-term plant assets, such as coal generating plants.

After discussing these four factors, the Attorney General provides additional comments on the incremental versus general ratemaking principles and its impact on rates. First, the Attorney General asserts that Duke is a monopoly provider of electric service and, as such, its rates, services, and operations affect the public interest and are governed by the regulatory procedures that apply to utilities under Chapter 62. It is a declared public policy goal of the State to promote utility service that is economical, as well as adequate and reliable. Absent any special incremental rate adjustment mechanisms authorized for the periodic recovery of particular costs, a utility must generally petition the Commission to increase rates, and the request is reviewed in the context of a formal rate case, whereby the utility is required to submit certain exhibits and testimony. The case is subject to cross-examination and is conducted in public proceedings, or hearings. The Attorney General additionally states that after public notice to the utility's customers, investigation and audit of the utility's application, and input from interested parties, the Commission considers the evidence and weighs the need for the proposed rate increase by

applying procedures set forth in G.S. 62-133. Quoting from a law review article,[12] the Attorney General states that in a general rate case, under a general ratemaking process, a utility must include all cost and benefits at the time rates are set and not cherry pick only certain cost increases or decreases. The Attorney General expresses concerns regarding single-issue ratemaking, or the incremental recovery of certain costs without consideration of other costs and factors, which he believes can skew the balance that traditional ratemaking strikes between ratepayers and shareholders, allow a utility to collect more costs outside of a general rate case, and diminish a utility's incentive to control costs.

The Attorney General notes that the Commission has previously applied the principles and general rules laid out in his comments to deny a utility request to use an incremental rider mechanism to recover environmental remediation costs, citing Docket No. G-5, Sub 327, in which Public Service Company of North Carolina, Inc. (PSNC), proposed to establish a rider for the recovery of costs incurred related to the environmental remediation of former manufactured gas plant (MGP) sites owned and operated until the early 1950s by PSNC solely or jointly with others. The Attorney General states that the Commission denied PSNC's request in that docket and instead allowed PSNC to defer such costs for review in a future general rate case. The Attorney General notes that the Commission set forth the following reasons for rejecting the incremental rate adjustment proposal: (1) a rider is an extraordinary rate mechanism; (2) not enough was yet known about PSNC's actions or the cost; (3) not enough was yet known about the prudence of the initial MGP operations or the prudence of the clean-up; (4) the review in a tracker proceeding would not allow sufficient investigation, and (5) PSNC's motivation to be efficient and economical would be undermined by a tracker that allows a pass-through of costs.

Lastly, the Attorney General notes that the Commission has in some cases allowed utilities to use riders to recover incremental costs when specifically provided for by the General Assembly. However, in the instant case involving coal ash remediation costs, the Attorney General does not believe that the General Assembly or the Commission should establish riders or any other mechanisms that will allow for the recovery of coal ash remediation by a utility: "While it may make sense for Duke to reprocess or recycle coal ash for use in concrete or other purposes, this does not mean that consumers should have to pay increased rates in order to promote incentives that encourage Duke to use coal ash in this fashion."

Carolinas Ready Mix Concrete Association

The CRMCA filed brief comments attaching a report conducted by Michael L. Fleming, a professor at North Carolina State University in the Department of Civil, Construction, and Environmental Engineering' on the benefits and quantities needed of fly ash for use in Portland cement in North Carolina, South Carolina, and Virginia. This report, which was supported by the CRMCA, describes the numerous benefits of incorporating fly ash into concrete. It also highlights the lack of economically available alternates to fly ash in the areas included in the study. The report estimates future fly ash demand in the primary markets for fly ash produced in North Carolina based on recent market trends and projected population growth in North

[12] Lino Mendiola, "The Erosion of Traditional Ratemaking Through the Use of Special Rates, Riders, and Other Mechanisms," 10 Tex. Tech. Admin. L.J. 173 (2008) at 173-74.

Carolina, South Carolina, and Virginia. While fly ash use in North Carolina was approximately 807,000 tons in 2014, the report concludes that

> at current demand levels, a total of almost 46.5 million tons of fly ash is projected to be needed in North Carolina, South Carolina and Virginia in the next 15 years. North Carolina alone is projected to need at least almost 5 million tons of fly ash between 2015 and 2020. The yearly average between 2015 and 2030 is estimated at well over 1.3 million tons in North Carolina and just over 2.9 million tons for all three states combined. These are average demands based on current market conditions; those quantities will increase if market conditions strengthen. Demand for fly ash in North Carolina would likely rise from almost 5 million tons to well over 6 million tons in that period with only a slight increase in demand for concrete.

The CRMCA in its comments refers to the Public Staff's conclusion that the Commission has sufficient ratemaking tools to incentivize reprocessing and re-use of CCRs, and it encourages the State "to implement a comprehensive coal ash management strategy that includes the long term beneficial reuse in concrete."

CONCLUSION AND RECOMMENDATIONS

The Attorney General, in his comments, notes some confusion regarding the intent of the report, which is focused on Commission incentives related to the recovery of incremental costs related to surface impoundments of CCRs, specifically, incentives to promote reprocessing or re-use of CCRs stored in surface impoundments. As detailed below in response to the three specific questions posed in the report requirement, the Commission currently allows investor-owned utilities to recover the reasonable and prudent costs associated with handling and disposal of CCRs, including the operation and maintenance of surface impoundments. Customers' rates are adjusted annually to include profits or losses associated with efforts to sell CCRs for beneficial re-use. Allowing the utilities to recover these costs annually between general rate cases is itself a valuable incentive. The beneficial use of CCRs has resulted in additional costs to customers; costs, as noted in the parties' comments, that would likely increase in order to facilitate additional opportunities for reprocessing or re-use. However, while the selling of CCRs for re-use increases customers current costs,[13] such costs would be even greater should the utilities not re-use CCRs and instead store them in surface impoundments. Thus, while the Commission agrees with all parties that CCRs can and should be re-used to the extent possible for structural fill, the production of concrete and other materials, and other beneficial uses[14] and that there is a societal benefit to doing so, no party, including the utilities, has identified the need for additional ratemaking incentives in order to promote the reprocessing or re-use of CCRs currently stored in surface impoundments.

1) <u>The Commission policy on allowed incremental cost recoupment.</u>

The Commission has consistently followed its long-standing practice of allowing reasonable and prudently incurred costs associated with the use of CCRs for beneficial purposes to be recovered through each utility's annual fuel and fuel-related charge adjustment clause rider (Fuel Rider). It has also been the Commission's practice to flow revenue realized from the sale of by-products produced in the generation of electricity through the Fuel Rider. No party disputes this as being the Commission's general policy regarding the incremental cost recovery of CCRs.

Utilization of deferral accounting is another practice that the Commission utilizes in providing for the recovery of certain reasonable and prudently incurred incremental costs. As described in the Public Staff comments, the Commission has exercised its general ratemaking authority in this regard, under certain limited circumstances, by authorizing the creation of regulatory assets, so as to provide the affected utility a reasonable opportunity (that would not otherwise exist) to recover costs of an extraordinary nature. For example, the Commission has allowed cost deferrals for future recovery related to system restoration after major weather events such as hurricanes and ice storms. The Commission has also allowed utilities to defer for future recovery costs related to environmental assessments and cleanup.

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[13] One reason CCRs are sold at a loss is due to transportation costs associated with the re-use.

[14] The Commission notes that Department of Environmental Quality (DEQ) and the Environmental Management Commission (EMC) are to submit reports on January 15, 2016, to the General Assembly regarding any findings and recommendations regarding the use of CCRs as structural fill and other beneficial uses.

2) The impact on utility customers' rates under the current policy on allowed incremental cost recoupment.

This area of inquiry concerns incremental cost recoupment accomplished through Fuel Riders. In its comments, Duke provided the information contained in the chart below:[15]

	Duke Energy Carolinas (DEC)			Duke Energy Progress (DEP)	
	Net (Gain)/Loss from Sale of By-Products (CCRs)	Monthly Impact		Net (Gain)/Loss from Sale of By-Products (CCRs)	Monthly Impact
Year	Amount Included in Fuel Adjustment Clause	Residential Customer Bill		Amount Included in Fuel Adjustment Clause	Residential Customer Bill
	(NC retail $)	Per 1,000 kWh Usage		(NC retail $)	Per 1,000 kWh Usage
2008	($735,846)	($0.01)		$2,704,571	$0.07
2009	$1,522,417	$0.03		$4,691,162	$0.13
2010	$2,032,559	$0.04		$4,217,633	$0.11
2011	$2,119,096	$0.04		$14,370,218	$0.38
2012	$2,846,464	$0.05		$14,622,282	$0.39
2013	$2,354,530	$0.04		$17,157,603	$0.46
2014	$1,328,726	$0.02		$19,600,207	$0.53
Total	$11,467,946	$0.03		$77,363,676	$0.30

As indicated in the chart above, sales of CCRs typically result in immediate net costs to ratepayers. For the most part, the electric utilities, as stated in their comments, are reusing CCRs from recently burned coal and not CCRs currently stored in surface impoundments. Therefore, it would appear to be reasonable to conclude that the sale of the CCRs that are currently stored in surface impoundments would increase the immediate net cost to ratepayers, as it would cost additional money to excavate the CCRs from the surface impoundments.

3) Any possible revisions to the current policy on allowed incremental cost recoupment that would promote reprocessing and other technologies that allow the re-use of coal combustion residuals stored in surface impoundments for concrete and other beneficial end uses.

All parties are in agreement that no changes are necessary to the Commission's long-standing policies pertaining to CCRs cost recoupment, and all parties are of the opinion that current practices are sufficient to incentivize the utilities to continue to repurpose CCRs and to continue to search for new ways to do so. The Commission is also of that same opinion.

The General Assembly may, however, be able to provide other incentives by relaxing statutory or regulatory constraints that may exist regarding the use of coal ash. Duke, for example, noted that the NC DOT limits replacement of cement with coal ash up to 30 percent.

[15] DNCP did not provide any data regarding CCRs sales.

Duke explained that a relaxation of this and similar limitations on CCR as structural fill could be a "game-changer" in the world of CCR re-use.

In other respects, the Commission has employed measures to incentivize utilities to utilize their resources optimally. For example, natural gas distribution companies are allowed to share in profits derived from the sale of underutilized capacity. The Commission has also approved and implemented a Bulk Power Marketing Sharing Rider (BPM), which incentivizes DEC to optimize use of its assets.

Also, in recent years, several statues have been enacted to permit annual rate adjustments to recover certain incremental costs.[16] One such example can be found in G.S. 62-133.9, which permits recovery of costs associated with implementing demand-side management and energy efficiency measures, and allows for "appropriate rewards based on the sharing of savings achieved by the demand-side management and energy efficiency measures." Other examples can be found in G.S. 62-133.7, which allows for rate adjustments for incremental capital investment and associated costs of complying with federal gas pipeline safety requirements (also called Integrity Management Rider, or IMR), and in G.S. 62-133.12, which allows for incremental depreciation expense and capital cost recovery associated with investment in certain water and sewer system improvements (referred to as Water System Improvement Charge (WSIC) and Sewer System Improvement Charge (SSIC)).

In each of the foregoing instances, the actions that utilities are encouraged to take are expected to lead to additional revenue or to customer savings. Where there is a net gain, the sharing mechanisms work as incentives because the utilities get to share in the savings (i.e., profits) with customers. In other cases, such as the cost to implement demand-side management and energy efficiency measures, there is a current cost, but a net savings to customers because it avoids greater future costs. In the case of CCRs, although there is a current cost, re-use avoids the greater future cost of otherwise disposing of the CCRs. Therefore, while there may be an opportunity for additional ratepayer savings with increased re-use of CCRs versus the alternative cost of disposal, no party believed that such ratemaking incentive would be necessary to promote greater reprocessing or re-use of CCRs. The utilities already have an incentive to re-use as much CCRs as possible because of the deadlines that the CAMA has imposed. Under the CAMA, the utilities must remove the ash and close their ash ponds by certain dates. If a utility re-uses CCRs, there is less coal ash to be cleaned up by the mandatory deadlines.

In conclusion, the Commission is of the opinion that current policies and practices are adequate to encourage re-use of CCRs for concrete and other beneficial end uses. Nevertheless, the Commission is open to and would welcome any expansion of or revision to its current cost recoupment policies that the General Assembly may consider appropriate. Finally, the Commission emphasizes that it stands ready to assist the General Assembly, as deemed appropriate, and will continue to maintain an open and active dialogue with all interested parties regarding this matter.

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[16] Incremental costs in this context are considered costs that are over and above the cost of service levels that were established (and included in rates) by the Commission in the utility's last general rate case for the specific item of cost in question.