

STATE OF NORTH CAROLINA
COUNTY OF NEW HANOVER

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES

IN THE MATTER OF ASSESSMENT)	FINDINGS AND DECISIONS AND
OF CIVIL PENALTIES AGAINST)	ASSESSMENT OF CIVIL PENALTIES
)	
Duke Energy Progress, Inc.)	
)	
FOR VIOLATIONS OF:)	
NCGS 143-215.1)	
15A NCAC 2L .0103 (d))	
15A NCAC 2L .0202)	FILE NO. LV-2015-0035

The Rules under the North Carolina Administrative Code Subchapter 2L (15A NCAC 02L) were established to maintain and preserve the quality of the groundwaters, prevent and abate pollution and contamination of the waters of the state, protect public health, and permit management of the groundwaters for their best usage by the citizens of North Carolina. It is the policy of the Environment Management Commission that the best usage of the groundwaters of the state is a source of drinking water. Therefore the intent of these Rules (15A NCAC 02L) is to protect the overall high quality of North Carolina's groundwater to the level established by the standards. With this intention and pursuant to North Carolina General Statutes (N.C.G.S.) 143-215.6(A) and the delegation provided by the Secretary of the Department of Environment and Natural Resources, I, Jay Zimmerman, Director of the Division of Water Resources (hereafter the Division), make the following:

I. FINDINGS OF FACT:

- A. Duke Energy Progress, Inc. (hereinafter Duke Energy) is a corporation organized and existing under the laws of the State of North Carolina and is in the business of electric power generation.
- B. Duke Energy owns and operates the L.V. Sutton Energy Complex, located at 801 Sutton Steam Plant Road, Wilmington, N.C. in New Hanover County (hereafter the facility).
- C. The groundwater in the area of the facility is classified as Class GA waters in accordance with the rules of the Environmental Management Commission, codified at Title 15A, North Carolina Administrative Code (NCAC), Subchapter 2L (15A NCAC 2L).
- D. The Compliance Boundary, as defined at 15A NCAC 2L .0102 (3), means a boundary around a disposal system at and beyond which groundwater quality standards may not be exceeded and only applies to facilities which have received a permit issued under authority of G.S. 143-215.1 or G.S. 130A.
- E. The Waste Boundary, as defined at 15A NCAC 2L .0102 (26), means the perimeter of the permitted waste disposal area.

- F. The Rules at 15A NCAC 2L .0103(d) prohibit any person from conducting, or causing to be conducted, any activity which causes the concentration of any substance to exceed that specified in 15A NCAC 2L .0202.
- G. The compliance boundary for disposal systems individually permitted prior to December 30, 1983, is established at a horizontal distance of 500 feet from the waste boundary or at the property boundary, whichever is closer to the source, pursuant to 15A NCAC 2L .0107(a).
- H. Permit No. NC0001422 was originally issued on June 30, 1977. On December 2, 2011, Carolina Power & Light d/b/a Progress Energy Carolinas, Inc. was issued the most recent NPDES permit No. NC0001422 for discharge of wastewater from the L.V. Sutton Energy Complex.
- I. By letter dated June 10, 2013, Duke Energy requested that all permits listed under Carolina Power & Light d/b/a Progress Energy Carolinas, Inc. be changed to Duke Energy Progress, Inc. This letter included an attachment listing all permits necessitating name changes, which included Permit No. NC0001422.
- J. Permit No. NC0001422 is required under North Carolina General Statute 143-215.1.
- K. Fly Ash and bottom Ash generated from coal combustion was stored in on-site Ash management areas. The Ash basin system consists of two Ash basins (built in approximately 1971 and 1984). This system is part of the Plant's wastewater treatment and disposal system covered under Permit No. NC0001422.
- L. Permit Condition A. (8) requires Groundwater Monitoring, well construction, and sampling in accordance with the Sampling Plan approved by the Division. The approved Groundwater Monitoring Plan for Permit No. NC0001422 established a Compliance Boundary around the permitted facility in accordance with the requirements of 15A NCAC 2L .0107(a).
- M. This disposal system was individually permitted prior to December 30, 1983; therefore the Compliance Boundary is established at either 500 feet from the effluent disposal area, or at the property boundary, whichever is closest to the effluent disposal area. Duke Energy does not meet the Rules in 15A NCAC 2L .0106(e)(2), and therefore, an exceedance of Groundwater Quality Standards at or beyond the Compliance Boundary is a violation subject to corrective action according to 15A NCAC 02L .0106(c).
- N. The approved Groundwater Monitoring Plan for Permit No. NC0001422 required monitoring for select groundwater parameters from monitor wells. The Groundwater Monitoring Plan was revised on March 17, 2011 and again on October 24, 2012.
- O. The Groundwater Quality Standards established in 15A NCAC 2L .0202 in Class GA waters for the following parameters are summarized in the following table:

Arsenic	10 ug/l
Boron	700 ug/l
Iron	300 ug/l

Manganese	50 ug/l
Selenium	20 ug/l
Thallium	0.2 ug/l
Total Dissolved Solids (TDS)	500 mg/l

- P. The Division received groundwater monitoring reports from Duke Energy beginning in 1995. Monitoring reports confirm that violations of the Groundwater Quality Standards have occurred at or beyond the compliance boundary at this facility.
- Q. Groundwater monitoring wells MW-4 and MW-5 represent background ambient conditions.
- R. The violations of Groundwater Quality Standards for Arsenic occurred in monitor well MW-21C, located at or beyond the Compliance Boundary. Concentrations of Arsenic were determined to be below detection levels in background wells. The concentrations of Arsenic in monitoring well(s) exceeded the Groundwater Quality Standards for the time period from October 2, 2013 through October 2, 2014, representing 365 days of continuous violation.
- S. The violations of Groundwater Quality Standards for Boron occurred in monitor wells MW-12, MW-19, MW-21C, MW-22C, MW-23B, MW-23C, MW-24B, MW-24C, and MW-31C located at or beyond the compliance boundary. Concentrations of Boron were determined to be below detection levels in background wells. The concentrations of Boron in monitoring well(s) exceeded the Groundwater Quality Standards for the time period from October 6, 2009 through October 2, 2014, representing 1,822 days of continuous violation.
- T. The violations of Groundwater Quality Standards for Iron occurred in monitor wells MW-21C, MW-24C, and MW-31C located at or beyond the compliance boundary. The concentrations of Iron in monitoring well(s) indicate a statistically significant difference when compared to the concentrations of Iron in the background wells, indicating an exceedance of the Groundwater Quality Standards for the time period from October 2, 2012 through October 2, 2014, representing 730 days of continuous violation.
- U. The violations of Groundwater Quality Standards for Manganese occurred in monitor wells MW-19, MW-21C, MW-22C, MW-23C, MW-24C, and MW-31C located at or beyond the compliance boundary. The concentrations of Manganese in monitoring well(s) indicate a statistically significant difference when compared to the concentrations of Manganese in the background wells, indicating an exceedance of the Groundwater Quality Standards for the time period from October 2, 2012 through October 2, 2014, representing 730 days of continuous violation.
- V. The violations of Groundwater Quality Standards for Selenium occurred in monitor well MW-27B, located at or beyond the compliance boundary. Concentrations of Selenium were determined to be below detection levels in background wells. The concentrations of Selenium in monitoring well(s) exceeded the Groundwater Quality Standards for the time period from October 2, 2012 through October 1, 2014, representing 729 days of continuous violation.
- W. The violations of Groundwater Quality Standards for Thallium occurred in monitor wells MW-19 and MW-24B located at or beyond the compliance boundary. Concentrations of

Thallium were determined to be below detection levels in background wells. The concentrations of Thallium in monitoring well(s) exceeded the Groundwater Quality Standards for the time period from March 9, 2010 through October 2, 2014, representing 1,668 days of continuous violation.

- X. The violations of Groundwater Quality Standards for Total Dissolved Solids (TDS) occurred in monitor well MW-24C located at or beyond the compliance boundary. Concentrations of TDS were determined to be below detection levels in background wells. The concentrations of TDS in monitoring well(s) exceeded the Groundwater Quality Standards for the time period from October 3, 2012 through October 1, 2014, representing 728 days of continuous violation.
- Y. On August 26, 2014, a Notice of Violation (NOV) and Notice of Intent to Enforce was issued to Duke Energy for conducting or controlling an activity that caused the concentration of contaminants in groundwater to exceed the groundwater standards adopted pursuant to N.C.G.S. 143-214.1 and set forth in 15A NCAC 2L .0202. The NOV was sent by Certified Mail, Return Receipt Requested and received on August 29, 2014.
- Z. The cost to the State of the enforcement procedures in this matter totaled \$8,883.61.

Based upon the above Findings of Fact, I make the following:

II. CONCLUSIONS OF LAW:

- A. Duke Energy Progress, Inc. is a "person" within the meaning of G.S. 143-215.6A pursuant to N.C.G.S. 143-212(4).
- B. Permit No. NC0001422 is required by N.C.G.S. 143-215.1.
- C. Permit No NC0001422 was originally issued on June 30, 1977.
- D. Compliance with all conditions set forth in Permit No. NC0001422 is required for wastewater treatment and disposal operations pursuant to G.S. 143-215.6A(a)(2).
- E. The Waste Boundary, as defined at 15A NCAC 2L .0102 (26), means the perimeter of the permitted waste disposal area.
- F. The Compliance Boundary, as defined at 15A NCAC 2L .0102 (3), means a boundary around a disposal system at and beyond which groundwater quality standards may not be exceeded and only applies to facilities which have received a permit issued under authority of G.S. 143-215.1 or G.S. 130A.
- G. Duke Energy violated 15A NCAC 2L .0103(d) by conducting an activity causing the concentration of contaminants in groundwater to exceed the groundwater standards adopted pursuant to N.C.G.S. 143-214.1 and set forth in 15A NCAC 2L .0202.

- H. Duke Energy violated N.C.G.S. 143-215.1. The Compliance Boundary for the disposal system is specified by regulations in 15A NCAC 2L, Groundwater Classifications and Standards. The Compliance Boundary for the disposal system constructed prior to December 30, 1983 is established at either (1) 500 feet from the waste disposal area, or (2) at the property boundary, whichever is closest to the waste disposal area. An exceedance of Groundwater Quality Standards at or beyond the Compliance Boundary is subject to Corrective Action in addition to the penalty provisions applicable under General Statute 143-215.6A(a)(1). The violations are a result from the sampling of the site's monitoring wells demonstrating the facility to be in violation of the Groundwater Quality Standards.
- I. Duke Energy violated 15A NCAC 2L .0202 and -.0103 on 365 days by exceeding the standard referenced in 15A NCAC 2L .0202 for Arsenic at or beyond the compliance boundary in monitor well(s) MW-21C, from October 2, 2013 through October 2, 2014.
- J. Duke Energy violated 15A NCAC 2L .0202 and -.0103 on 1,822 days by exceeding the standard referenced in 15A NCAC 2L .0202 for Boron at or beyond the compliance boundary in monitor well(s) MW-12, MW-19, MW-21C, MW-22C, MW-23B, MW-23C, MW-24B, MW-24C, and MW-31C, from October 6, 2009 through October 2, 2014.
- K. Duke Energy violated 15A NCAC 2L .0202 and -.0103 on 730 days by exceeding a statistically-established concentration that is higher than the standard referenced in 15A NCAC 2L .0202 for Iron, at or beyond the compliance boundary in monitor well(s) MW-21C, MW-24C, and MW-31C, from October 2, 2012 through October 2, 2014.
- L. Duke Energy violated 15A NCAC 2L .0202 and -.0103 on 730 days by exceeding a statistically-established concentration that is higher than the standard referenced in 15A NCAC 2L .0202 for Manganese, at or beyond the compliance boundary in monitor well(s) MW-19, MW-21C, MW-22C, MW-23C, MW-24C, and MW-31C, from October 2, 2012 through October 2, 2014.
- M. Duke Energy violated 15A NCAC 2L .0202 and -.0103 on 729 days by exceeding the standard referenced in 15A NCAC 2L .0202 for Selenium at or beyond the compliance boundary in monitor well(s) MW-27B, from October 2, 2012 through October 1, 2014.
- N. Duke Energy violated 15A NCAC 2L .0202 and -.0103 on 1,668 days by exceeding the standard referenced in 15A NCAC 2L .0202 for Thallium at or beyond the compliance boundary in monitor well(s) MW-19 and MW-24B, March 9, 2010 through October 2, 2014.
- O. Duke Energy violated 15A NCAC 2L .0202 and -.0103 on 728 days by exceeding the standard referenced in 15A NCAC 2L .0202 for Total Dissolved Solids (TDS) at or beyond the compliance boundary in monitor well(s) MW-24C, October 3, 2012 through October 1, 2014.
- P. N.C.G.S. 143-215.6A(a)(1) provides that the Secretary of the Department of Environment and Natural Resources may assess a civil penalty of not more than \$25,000.00 against any person who violates any classification, standard, limitation or management practice established pursuant to N.C.G.S. 143-214.1, 143-214.2 or 143-215.

Q. N.C.G.S. 143-215.6A(b) provides that if any action or failure to act for which a penalty may be assessed under this section is continuous, the Secretary may assess a penalty not to exceed twenty-five thousand dollars (\$25,000) per day for so long as the violation continues, unless otherwise stipulated.

R. N.C.G.S. 143-215.3(a)(9) provides that the reasonable costs of any investigation, inspection, or monitoring survey may be assessed against a person who violates any regulation, standards or limitations adopted by the Environmental Management Commission.

III. DECISION:

Pursuant to N.C.G.S. 143-215.6A, in determining the amount of the penalty, I have taken into account the Findings of Fact and Conclusions of Law and considered all the factors listed in N.C.G.S. 143B-282.1. Accordingly, Duke Energy shall be, and hereby is assessed a civil penalty of:

\$ 1,825,000.00 For violation of N.C.G.S. 143-215.1, 15A NCAC 2L .0202 and -.0103 on 365 days by exceeding the standard referenced in 15A NCAC 2L .0202 for Arsenic at or beyond the compliance boundary in monitor well(s) MW-21C, from October 2, 2013 through October 2, 2014 for a period of **365** days.

\$ 9,110,000.00 For violation of N.C.G.S. 143-215.1, 15A NCAC 2L .0202 and -.0103 on 1,822 days by exceeding the standard referenced in 15A NCAC 2L .0202 for Boron at or beyond the compliance boundary in monitor well(s) MW-12, MW-19, MW-21C, MW-22C, MW-23B, MW-23C, MW-24B, MW-24C, and MW-31C, from October 6, 2009 through October 2, 2014 for a period of **1,822** days.

\$ 730,000.00 For violation of N.C.G.S. 143-215.1, 15A NCAC 2L .0202 and -.0103 on 730 days by exceeding a statistically-established concentration that is higher than the standard referenced in 15A NCAC 2L .0202 for Iron, at or beyond the compliance boundary in monitor well(s) MW-21C, MW-24C, and MW-31C, from October 2, 2012 through October 2, 2014, for a period of **730** days.

\$ 730,000.00 For violation of N.C.G.S. 143-215.1, 15A NCAC 2L .0202 and -.0103 on 730 days by exceeding a statistically-established concentration that is higher than the standard referenced in 15A NCAC 2L .0202 for Manganese, at or beyond the compliance boundary in monitor well(s) MW-19, MW-21C, MW-22C, MW-23C, MW-24C, and MW-31C, from October 2, 2012 through October 2, 2014, for a period of **730** days.

\$ 3,645,000.00 For violation of N.C.G.S. 143-215.1, 15A NCAC 2L .0202 and -.0103 on 729 days by exceeding the standard referenced in 15A NCAC 2L .0202 for Selenium at or beyond the compliance boundary in monitor well(s) MW-27B, from October 2, 2012 through October 1, 2014, for a period of **729** days.

\$ 8,340,000.00 For violation of N.C.G.S. 143-215.1, 15A NCAC 2L .0202 and -.0103 on 1,668 days by exceeding the standard referenced in 15A NCAC 2L .0202 for Thallium

at or beyond the compliance boundary in monitor well(s) MW-19 and MW-24B, from March 9, 2010 through October 2, 2014, for a period of **1,668** days.

\$ 128,000.00

For violation of N.C.G.S. 143-215.1, 15A NCAC 2L .0202 and -.0103 on 728 days by exceeding the standard referenced in 15A NCAC 2L .0202 for Total Dissolved Solids (TDS) at or beyond the compliance boundary in monitor well(s) MW-24C, from October 3, 2012 through October 1, 2014, for a period of **728** days.

\$ 25,108,000.00

TOTAL CIVIL PENALTY which is 20 percent of the maximum penalty authorized by N.C.G.S. 143-215.6A; and

\$ 8,883.61

Enforcement costs

\$ 25,116,883.61 **TOTAL AMOUNT DUE**

Pursuant to N.C.G.S. 143-215.6A(c), in determining the amount of the penalty I have taken into account the Findings of Fact and Conclusions of Law and the factors set forth at N.C.G.S. 143B-282.1(b), which are:

- (1) The degree and extent of harm to the natural resources of the State, to the public health, or to private property resulting from the violation;
- (2) The duration and gravity of the violation;
- (3) The effect on ground or surface water quantity or quality or on air quality;
- (4) The cost of rectifying the damage;
- (5) The amount of money saved by noncompliance;
- (6) Whether the violation was committed willfully or intentionally;
- (7) The prior record of the violator in complying or failing to comply with programs over which the Environmental Management Commission has regulatory authority; and
- (8) The cost to the State of the enforcement procedures.

IV. NOTICE:

I reserve the right to assess civil penalties and investigative costs for any continuing violations occurring after the assessment period indicated above. Each day of a continuing violation may be considered a separate violation subject to a maximum \$25,000.00 per day penalty. Civil penalties and investigative cost may be assessed for any other rules and statutes for which penalties have not yet been assessed.

V. TRANSMITTAL:

This Civil Penalty Assessment is directed to be transmitted to Duke Energy , in accordance with N.C.G.S. 143-215.6A(d).

3/10 /2015

Date

A handwritten signature in black ink, appearing to read "S. Jay Zimmerman", is written over a horizontal line.

S. Jay Zimmerman, P.G.
Director, Division of Water Resources