

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date:**

**Region:** Winston-Salem Regional Office  
**County:** Rockingham  
**NC Facility ID:** 7900015  
**Inspector's Name:** Eric Hudson  
**Date of Last Inspection:** 04/02/2008  
**Compliance Code:** 3/In Compliance - Inspection

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>		
<b>Applicant (Facility's Name):</b> Duke Energy Carolinas, LLC - Dan River Steam Station  <b>Facility Address:</b> Duke Energy Carolinas, LLC - Dan River Steam Station 900 South Edgewood Road Eden, NC 27288  <b>SIC:</b> 4911 / Electric Services <b>NAICS:</b> 221112 / Fossil Fuel Electric Power Generation  <b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V			<b>SIP:</b> <b>NSPS:</b> <b>NESHAP:</b> <b>PSD:</b> <b>PSD Avoidance:</b> <b>NC Toxics:</b> <b>112(r):</b> <b>Other:</b>		
<b>Contact Data</b>			<b>Application Data</b>		
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 7900015.07A <b>Date Received:</b> 12/27/2006 <b>Application Type:</b> Modification <b>Application Schedule:</b> TV-Significant <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 03455/T25 <b>Existing Permit Issue Date:</b> 02/21/2008 <b>Existing Permit Expiration Date:</b> 10/31/2008		
Larry Evans Environmental Coordinator (336) 623-0430 900 South Edgewood Road Eden NC, 27288	Stephen Townsend General Manager II Dan River Steam Stati (704) 280-9354 900 South Edgewood Road Eden NC, 27288	William Horton Senior Scientist (980) 373-3226 P.O. Box 1006 Charlotte NC, 28202			
<b>Review Engineer:</b> Ed Martin  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____  <b>DRAFT</b>			<b>Comments / Recommendations:</b> Issue 03455/T26 <b>Permit Issue Date:</b> <b>Permit Expiration Date:</b>		

**I. Purpose of Application:**

Duke Energy has submitted an application (7900015.07A) to comply with the annual NOx emission requirements of the Acid Rain program by averaging the NOx emission rates and heat inputs for the 52 units listed in their application Averaging Plan. Previously Duke complied with the Acid Rain regulations on an individual unit-by-unit basis rather than averaging among units. Duke's initial Averaging Plan application was received December 27, 2006. Duke then submitted a corrected Averaging Plan form, received January 9, 2007, because the two numbers in Step 2 of the form were reversed. Also, the \$834 application fee was not included in the initial application, and was received January 31, 2007, along with other changes they wanted made to the permit. An application fee is not required for a renewal (only) of the Acid Rain portion of the permit; however, it is required anytime a change to an averaging plan is made. In addition, Duke submitted an application, (7900015.07C) received June 21, 2007, for renewal of the Title IV Acid Rain portion of their Title V permit.

Therefore, this permit revision will include both the averaging plan requirements and the renewal of the Acid Rain portion of the Title V permit (with application 7900015.07C consolidated with application 7900015.07A), extending the effective dates of the Acid Rain portion of the permit for the calendar years

2007-2011. Duke Energy submitted an Acid Rain Permit Application dated June 18, 2007, a Phase II NO<sub>x</sub> Compliance Plan dated December 18, 2006, and a Phase II NO<sub>x</sub> Averaging Plan dated January 4, 2007, which will become part of the Title V permit (as attachments).

This change is a significant permit modification being made in accordance with 15A NCAC 2Q .0501(d)(1).

**II. Permit Changes:**

The following changes were made to the Duke Energy Carolinas LLC Dan River Steam Station Air Permit No. 03455T25:

Page	Part, Section	Change
Cover	--	Amended to reflect current permit number, issue and effective date, and associated application information.
TOC	--	Revised for new Acid Rain application attachments.
Entire permit		Revised citation for testing requirements from 2D .0501 to 2D .2601 due to rule change.
		Revised citation for the ambient air quality standard limits from 2D .0501(e) to 2D .0501(c) due to rule change.
27-31	Part I, Section 2.3	Revised Acid Rain effective dates.
		Revised NO <sub>x</sub> limits in accordance with averaging plan in Section 2.3 B.
		Revised for new Acid Rain application attachments in Section 2.3 D.
32-40	Part I, Section 3	Revised general condition H.
		Revised general condition JJ.
		Added general condition LL.
		Added general condition MM.

**III. Facility Description**

Duke Energy’s Dan River Steam Station is an electric utility plant that generates electrical power using boilers and combustion turbines. The Dan River facility has three coal/No. 2 fuel oil-fired electric utility boilers (ID Nos. ES-1 (U-1 Boiler), ES-2 (U-2 Boiler) and ES-3 (U-3 Boiler)), three No. 2 fuel oil/natural gas-fired simple-cycle combustion turbines (ID Nos. ES-4 (CT4C), ES-5 (CT5C) and ES-6 (CT6C)), two No. 2 fuel oil-fired starting diesel engines (ID Nos. ES-7 (4CStEng) and ES-8 (6CStEng)), one No. 2 fuel oil-fired auxiliary boiler (ID No. ES-9 (Aux)), and one rail-car unloading system (ID No. ES-10 (RCU)).

**IV. Summary of Changes to Emission Sources and Control Devices:**

There are no changes to emission sources or control devices.

**V. Emission and Regulatory Evaluation**

15A NCAC 2Q .0400 "Acid Rain Procedures" (40 CFR Part 72 "Permits Regulation")  
 North Carolina air quality regulation 15A NCAC 2Q .0400 implements Phase II of the federal acid rain program pursuant to Title IV of the CAA as provided in 40 CFR Part 72. Issuance or denial of acid rain permits shall follow the procedures under 40 CFR Part 70 (Title V) and Part 72. If the provisions or requirements of Part 72 conflict with or are not included in Part 70, the Part 72 provisions and requirements shall apply and take precedence.

15A NCAC 2Q .0400 “Acid Rain Procedures” (40 CFR Part 73 “Sulfur Dioxide Allowance System”)

Establishes the procedures for allocation, tracking, holding and transfer of sulfur dioxide emission allowances, including the initial allowances allocated to each applicable Phase II unit account to be held in calendar years 2000 through 2009 (per Table 2, column C) and in calendar years 2010 and each year thereafter (Table 2, column F).

15A NCAC 2Q .0400 “Acid Rain Procedures” (40 CFR Part 76 “Acid Rain Nitrogen Oxides Emission Reduction Program”)

Each coal-fired utility unit that is subject to an Acid Rain emissions limit for SO<sub>2</sub> under Phase I or Phase II of the CAA must meet the NO<sub>x</sub> emission limitations under 40 CFR Part 76. Duke Energy has exercised the option (beginning with this application) to use NO<sub>x</sub> emissions averaging to comply with the NO<sub>x</sub> emissions limits. NO<sub>x</sub> emissions averaging is a NO<sub>x</sub> compliance option under 40 CFR 76.11 which allows any affected units subject to a NO<sub>x</sub> emissions limit under 40 CFR 76.5, 76.6 or 76.7, under the control of the same owner and operator, and with the same designated representative, to average their NO<sub>x</sub> emissions under an approved averaging plan. It has been verified that the averaging plan proposed meets the criteria that the Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan is less than or equal to the Btu-weighted annual average emission rate for same units operated in compliance with 40 CFR 76.5, 76.6 or 76.7, as shown in the application.

**VI. Public Notice**

Pursuant to 15A NCAC 2Q .0521, a notice of the draft Title V Operating Permit will be published in a newspaper of general circulation in the area where the facility is located, to provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the draft (proposed) permit, review and public notice will be sent to EPA for their 45-day review, to persons on the Title V mailing list, and to the facility for review.

**VII. Other Requirements**

PE Seal

NA

Zoning

NA

Fee Classification

The facility fee classification before and after this modification will remain as “Title V”.

Increment Tracking

NA

**VIII. Recommendations**

later after public notice