North Carolina Department of Environment and Natural Resources
Division of Energy, Mineral and Land Resources
Land Quality Section

Tracy E. Davis, PE, CPM
Director

Pat McCrory, Governor
John E. Skvarla, III, Secretary

NOTICE OF INSPECTION

Date: March 11, 2014

Duke Energy Corporation
Attention: Sean DeNeale
526 South Church Street, ECI-013
Charlotte, North Carolina 28202

RE: Allen Active Ash Basin Dam
GASTO-061 – High Hazard Potential
Gaston County

Dear Mr. DeNeale:

The "Dam Safety Law of 1967," as amended, provides for the certification and inspection of dams in the interest of public health, safety, and welfare, in order to reduce the risk of failure of such dams; to prevent injuries to persons, damage to property; and to insure the maintenance of stream flows.

Our record indicate that you are the owner and/or responsible for the referenced dam, which is located off Plant Allen Road in Gaston County and was inspected on February 19, 2014 and March 1, 2014 by personnel of the Land Quality Section. This inspection revealed the conditions outlined below. Please note that references to "right" and "left" in descriptions of the dam structure are referenced while looking in the downstream direction.

1. Seepage and/or wetness were observed along the downstream toe of the eastern and southern sections of the dam embankment. Please continue to monitor periodically with respect to clarity and quantity, and notify this office immediately if you notice any sudden changes.

2. Cell 1, in the area adjacent to the transmission tower and nearby bend in the embankment, has scarping along the upstream slope. Please continue to maintain the lowered impoundment condition until Stage 3 repairs have been completed pursuant to our Repair Schedule Response letter issued January 25, 2011.

3. Areas of surface damage due to mower activity and areas of stressed vegetation due to recent rains were observed on the downstream slope of the dam. It is recommended that the areas be monitored and vegetation reestablished as needed to prevent surface erosion.

4. Small trees and high vegetation is growing on the upstream slope of the dam in the rip rap wave protection. Though you have cut this growth off the dam in the past, it should be kept off by re-cutting periodically. After cutting, the debris should be removed from the dam.

Additionally, the following general maintenance procedures are recommended:

1. Maintain a ground cover sufficient to restrain accelerated erosion on all earthen portions of the structure.

2. Periodically monitor the subject dam and appurtenant works with respect to elements affecting its safety. This is in light of the legal duties, obligations, and liabilities arising from the ownership and/or operation of a dam.

During this inspection we also investigated the potential for property damage and loss of life in the event that your dam fails. This investigation determined that failure of your dam could result in significant environmental damage to Lake Wylie and possible interruption of utility service. Therefore, we are listing your dam in the "High Hazard Potential" Note that all hazard classifications are subject to change due to downstream conditions.

Please be advised that the Division of Energy, Mineral and Land Resources must approve any excavation, modification, or major repair work to this dam before the work commences. Also, note that this dam may not be breached, meaning the dam may not be drained by cutting a notch in the dam, without prior engineered breach plans being submitted to and approved by the Division of Energy, Mineral and Land Resources.

The "Dam Operation Maintenance and Inspection Manual" published by this Division provides inspection guidelines and recommended routine dam maintenance activities for the owner as well as emergency procedures in the event of possible dam failure. This document may be viewed online at http://portal.ncdenr.org/web/lr/dams.

Although every reasonable effort is made to determine the safety of each dam, our resources generally limit us to a surficial inspection of the dam and its appurtenant structures. This letter carries no implication regarding the internal stability of the dam. Dams, and especially their spillways and conduits, deteriorate with age. You are therefore advised to keep a close watch on the dam and notify us if you detect any changes, especially cracks, ground movements, or changes in seepage rate or color.

Please notify this office in writing if you wish to assert that you have no ownership or otherwise are not responsible for maintenance or repairs to the subject dam. If you have an emergency situation during non-office hours, you should notify 911 and the State Emergency Operations Center at 1 (800) 858-0368. They will notify the appropriate personnel in this Office of the situation.

Your cooperation and consideration in maintaining a safe dam is appreciated. Should you have any questions concerning our inspection, please contact me at (704) 663-1699.

Sincerely,

Zahid S. Khan, CPM, CPESC, CPSWQ
Regional Engineer
Land Quality Section

THE/cys

cc: Steven M. McEvoy, PE, State Dam Safety Engineer

DAM SAFETY INSPECTION REPORT

NAME	COUNTY	NO.	INSPECTED BY	DATE
ALLEN ACTIVE ASH POND DAM	GASTON	061	Eglin, Kormanik, Broadway, Schwiebert	2/19/2014
OWNER	**ADDRESS**			**PHONE**
DUKE ENERGY	See file			

TYPE DAM: ☐ Concrete gravity ☐ Concrete arch ☒ Other ☒ Embankment ☐ Concrete buttress ☐ Stone masonry Ash Basin

TYPE INSPECTION: ☒ Periodic ☐ Initial ☐ Followup ☐ Other

SITE CONDITIONS: ☒ Wet ☐ Dry ☐ Snowcover ☐ Other

HAZARD DESCRIPTION: See file

HAZARD CLASS: ☐ Intermediate (B) ☒ High (C) ☐ Low (A)

REMARKS: Dan Scruggs, Alex Papp, Alex Vogl, Scott Nordgren in attendance. *It rained heavily this morning*

ACTION:
- ☐ None
- ☒ Maintenance
- ☐ Monitoring
- ☐ Minor repair
- ☐ Engineering

RECOMMENDATIONS:
- ☒ Inspection letter
- ☐ Deficiency letter
- ☐ RE notice
- ☐ Engineering study
- ☐ Inspection by RE
- ☐ Inspection by DSE
- ☐ Dam safety order
- ☐ Enforcement
- ☒ Periodic reinspection
- ☐ Other reinspection

UPSTREAM SLOPE / FACE

PROBLEMS:
- ☐ 1.None
- ☐ 2.Trees
- ☐ 3.High bushes
- ☐ 4.Burrows
- ☐ 5.Wave erosion
- ☐ 6.Livestock damage
- ☐ 7.Slides
- ☐ 8.Depressions
- ☐ 9.Bulges
- ☐ 10.Sparse rip rap
- ☐ 11.Displaced rip rap
- ☐ 12.Cracks
- ☐ 13.Undermining
- ☐ 14.Holes
- ☐ 15.Spalling
- ☐ 16.Displaced joints
- ☐ 17.Deteriorated joints
- ☐ 18.Exposed reinforcement
- ☐ 19.Other

COMMENTS:

COVER: ☒ Vegetation ☒ Rip rap ☐ Concrete ☐ Asphalt ☐ Other

Vegetation @ waters edge U/S, should be removed periodically
- Scarp on U/S near transmission tower 1-2ft
- New scarp in cell 1, would be addressed w

Impoundment remains lowered (Cell 1) awaiting repair (stage 3 of repair plan)

TOP OF DAM

PROBLEMS:
- ☒ 1.None
- ☐ 2.Trees
- ☐ 3.High bushes
- ☐ 4.Burrows
- ☐ 5.Ruts
- ☐ 6.Livestock damage
- ☐ 7.Depressions
- ☐ 8.Unlevel
- ☐ 9.Misalignment
- ☐ 10.Has overtopped
- ☐ 11.Cracks
- ☐ 12.Spalling
- ☐ 13.Deteriorated joints
- ☐ 14.Displaced joints
- ☐ 15.Exposed reinforcement
- ☐ 16.Other

COMMENTS:

COVER: ☒ Vegetation ☒ Gravel ☐ Concrete ☐ Asphalt ☐ Other

DOWNSTREAM SLOPE / FACE

PROBLEMS:
- ☐ 1.None
- ☐ 2.Trees
- ☐ 3.High bushes
- ☐ 4.Burrows
- ☐ 5.Erosion
- ☐ 6.Livestock damage
- ☐ 7.Slides
- ☐ 8.Depressions
- ☐ 9.Bulges
- ☐ 10.Wetness
- ☐ 11.Seepage
- ☐ 12.Boils
- ☐ 13.Cracks
- ☐ 14.Holes
- ☐ 15.Spalling
- ☐ 16.Displaced joints
- ☐ 17.Deteriorated joints
- ☐ 18.Exposed reinforcement
- ☐ 19.Other

COMMENTS:

COVER: ☒ Vegetation ☐ Rip rap ☐ Concrete ☐ Other

Heavy snow / recent rains, grass cover stressed in drainage areas of slopes, seeding / repair of any (minor) eroded areas recommended.
- Some mower rutting, repair as needed
- Ground cover needed under double barrels D/S slope

TOE CONTACT

PROBLEMS:
- ☐ 1.None
- ☐ 2.Trees
- ☐ 3.High bushes
- ☐ 4.Burrows
- ☐ 5.Erosion
- ☐ 6.Livestock damage
- ☐ 7.Slides
- ☐ 8.Depressions
- ☐ 9.Bulges
- ☐ 10.Wetness
- ☐ 11.Seepage
- ☐ 12.Boils
- ☐ 13.Cracks
- ☐ 14.Holes
- ☐ 15.Spalling
- ☐ 16.Displaced joints
- ☐ 17.Deteriorated joints
- ☐ 18.Exposed reinforcement
- ☐ 19.Undermining
- ☐ 20.Other

COMMENTS:

COVER: ☐ Vegetation ☒ Rip rap ☐ Concrete ☐ Other

Continue to remove vegetation in rip rap @ toe - recommended
Ponding / active flow in all areas below drainage swales due to rain drainage.

AREA	PROBLEMS	COMMENTS
ABUTMENT CONTACTS	☒ 1.None ☐ 2.Trees ☐ 3.High bushes ☐ 4.Burrows ☐ 5.Erosion ☐ 6.Livestock damage ☐ 7.Slides ☐ 8.Depressions ☐ 9.Bulges ☐ 10.Wetness ☐ 11.Seepage ☐ 12.Boils ☐ 13.Cracks ☐ 14.Holes ☐ 15.Spalling ☐ 16.Displaced joints ☐ 17.Deteriorated joints ☐ 18.Exposed reinforcement ☐ 19.Undermining ☐ 20.Other	COVER: ☒ Vegetation ☐ Rip rap ☐ Concrete ☐ Other
PRINCIPAL SPILLWAY	☐ 1.None ☐ 2.No trashguard ☐ 3.Obstructed ☐ 4.Plugged ☐ 5.Rusted ☐ 6.Damaged ☐ 7.Gates leaking ☐ 8.Joints leaking ☐ 9.Cracks ☐ 10.Joint deterioration ☐ 11.Joint displacement ☐ 12.Undermined ☐ 13.Voids ☐ 14.Erosion ☐ 15.Holes ☐ 16.Conduit collasped ☐ 17.Spalling ☐ 18.Outlet undercutting ☐ 19.Misalignment ☐ 20.Other	TYPE/SIZE: Concrete riser w/ RCP barrel No problems observed, active flow
EMERGENCY SPILLWAY	☐ 1.None ☐ 2.No ES ☐ 3.Same as PS ☐ 4.Obstructed ☐ 5.Erosion ☐ 6.Displaced rip rap ☐ 7.Sparse rip rap ☐ 8.Joints leaking ☐ 9.Cracks ☐ 10.Joint deterioration ☐ 11.Joint displacement ☐ 12.Undermining ☐ 13.Voids ☐ 14.Holes ☐ 15.Exposed reinforcement ☐ 16.Spalling ☐ 17.Outlet erosion ☐ 18.Misalignment ☐ 19.Inadequate capacity ☐ 20.Other	TYPE/SIZE: Same as
DRAINS / OTHER OUTLETS	☐ 1.None ☐ 2.No bottom drain ☐ 3.Bottom drain inoperable ☐ 4.Subsurface drain dry ☐ 5.Subsurface drain muddy flow ☐ 6.Subsurface drain obstructed ☐ 7.No animal guard ☐ 8.Other	TYPE: None observed.

SKETCHES/COMMENTS

January 25, 2011 - Repair Schedule Response Letter issued - scarp repairs to take place after Stage 2 repairs (completed) and after EPA finalizes regulations for coal combustion residuals impoundments, provided emergency conditions don't occur to require faster response. Cell 1 is "drained impoundment awaiting repair", must be maintained at elevation 635 or lower.

Piezometers monitored monthly according to Alex Papp.

DAM SAFETY INSPECTION REPORT

NAME	COUNTY	NO.	INSPECTED BY	DATE
Allen Active Ash Basin Dam	GASTO	061	EPLIN, KOMNIK	3/1/2014

OWNER	ADDRESS	PHONE
See file	See file	

TYPE DAM: ☐ Concrete gravity ☐ Concrete arch ☒ Other ☒ Embankment ☐ Concrete buttress ☐ Stone masonry Ash basin

TYPE INSPECTION: ☐ Periodic ☐ Initial ☒ Followup ☐ Other

SITE CONDITIONS: ☒ Wet ☐ Dry ☐ Snowcover ☐ Other

HAZARD DESCRIPTION: See file

HAZARD CLASS: ☐ Intermediate (B) ☐ Low (A) ☒ High (C)

REMARKS: Follow-up
Tim Russell, Bob Scruggs in attendance

ACTION: ☐ None ☐ Maintenance ☐ Monitoring ☐ Minor repair ☐ Engineering

RECOMMENDATIONS: ☐ Inspection letter ☐ Deficiency letter ☐ RE notice ☐ Engineering study ☐ Inspection by RE ☐ Inspection by DSE ☐ Dam safety order ☐ Enforcement ☐ Periodic reinspection ☐ Other reinspection

AREA	PROBLEMS		COMMENTS
UPSTREAM SLOPE / FACE	☐ 1.None ☐ 2.Trees ☐ 3.High bushes ☐ 4.Burrows ☐ 5.Wave erosion ☐ 6.Livestock damage ☐ 7.Slides ☐ 8.Depressions ☐ 9.Bulges ☐ 10.Sparse rip rap	☐ 11.Displaced rip rap ☐ 12.Cracks ☐ 13.Undermining ☐ 14.Holes ☐ 15.Spalling ☐ 16.Displaced joints ☐ 17.Deteriorated joints ☐ 18.Exposed reinforcement ☐ 19.Other	COVER: ☐ Vegetation ☐ Rip rap ☐ Concrete ☐ Asphalt ☐ Other DNI
TOP OF DAM	☐ 1.None ☐ 2.Trees ☐ 3.High bushes ☐ 4.Burrows ☐ 5.Ruts ☐ 6.Livestock damage ☐ 7.Depressions ☐ 8.Unlevel ☐ 9.Misalignment ☐ 10.Has overtopped	☐ 11.Cracks ☐ 12.Spalling ☐ 13.Deteriorated joints ☐ 14.Displaced joints ☐ 15.Exposed reinforcement ☐ 16.Other	COVER: ☐ Vegetation ☐ Gravel ☐ Concrete ☐ Asphalt ☐ Other DNI
DOWNSTREAM SLOPE / FACE	☐ 1.None ☐ 2.Trees ☐ 3.High bushes ☐ 4.Burrows ☐ 5.Erosion ☐ 6.Livestock damage ☐ 7.Slides ☐ 8.Depressions ☐ 9.Bulges ☐ 10.Wetness	☐ 11.Seepage ☐ 12.Boils ☐ 13.Cracks ☐ 14.Holes ☐ 15.Spalling ☐ 16.Displaced joints ☐ 17.Deteriorated joints ☐ 18.Exposed reinforcement ☐ 19.Other	COVER: ☒ Vegetation ☒ Rip rap ☐ Concrete ☐ Other Toe drain outlets observed were plastic pipe
TOE, CONTACT	☐ 1.None ☐ 2.Trees ☐ 3.High bushes ☐ 4.Burrows ☐ 5.Erosion ☐ 6.Livestock damage ☐ 7.Slides ☐ 8.Depressions ☐ 9.Bulges ☐ 10.Wetness	☐ 11.Seepage ☐ 12.Boils ☐ 13.Cracks ☐ 14.Holes ☐ 15.Spalling ☐ 16.Displaced joints ☐ 17.Deteriorated joints ☐ 18.Exposed reinforcement ☐ 19.Undermining ☐ 20.Other	COVER: ☒ Vegetation ☒ Rip rap ☐ Concrete ☐ Other CMP Road culverts observed below toe of dam

AREA	PROBLEMS	COMMENTS
ABUTMENT CONTACTS	☐ 1.None ☐ 2.Trees ☐ 3.High bushes ☐ 4.Burrows ☐ 5.Erosion ☐ 6.Livestock damage ☐ 7.Slides ☐ 8.Depressions ☐ 9.Bulges ☐ 10.Wetness ☐ 11.Seepage ☐ 12.Boils ☐ 13.Cracks ☐ 14.Holes ☐ 15.Spalling ☐ 16.Displaced joints ☐ 17.Deteriorated joints ☐ 18.Exposed reinforcement ☐ 19.Undermining ☐ 20.Other	COVER: ☐ Vegetation ☐ Rip rap ☐ Concrete ☐ Other DNZ
PRINCIPAL SPILLWAY	☐ 1.None ☐ 2.No trashguard ☐ 3.Obstructed ☐ 4.Plugged ☐ 5.Rusted ☐ 6.Damaged ☐ 7.Gates leaking ☐ 8.Joints leaking ☐ 9.Cracks ☐ 10.Joint deterioration ☐ 11.Joint displacement ☐ 12.Undermined ☐ 13.Voids ☐ 14.Erosion ☐ 15.Holes ☐ 16.Conduit collasped ☐ 17.Spalling ☐ 18.Outlet undercutting ☐ 19.Misalignment ☐ 20.Other	TYPE/SIZE: Concrete riser with RCP barrel Clear flow, outlet intact, stable
EMERGENCY SPILLWAY	☐ 1.None ☐ 2.No ES ☐ 3.Same as PS ☐ 4.Obstructed ☐ 5.Erosion ☐ 6.Displaced rip rap ☐ 7.Sparse rip rap ☐ 8.Joints leaking ☐ 9.Cracks ☐ 10.Joint deterioration ☐ 11.Joint displacement ☐ 12.Undermining ☐ 13.Voids ☐ 14.Holes ☐ 15.Exposed reinforcement ☐ 16.Spalling ☐ 17.Outlet erosion ☐ 18.Misalignment ☐ 19.Inadequate capacity ☐ 20.Other	TYPE/SIZE: Same as
DRAINS / OTHER OUTLETS	☐ 1.None ☐ 2.No bottom drain ☐ 3.Bottom drain inoperable ☐ 4.Subsurface drain dry ☐ 5.Subsurface drain muddy flow ☐ 6.Subsurface drain obstructed ☐ 7.No animal guard ☐ 8.Other	TYPE: See downstream slope section.

SKETCHES/COMMENTS