

#### 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.

Duke Energy Corporation Notice of Inspection March 11, 2014 Page 3 of 3 Allen Active Ash Basin Dam GASTO-061

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

Zalid S. Km

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

# (DAM SAFETY INSPECTION REPORT)

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ALLEN ACTIVE ASH POND	DAM GAJO 061 Eplin, Kormanik, Schwei bet 2/19/2014
OWNER ENERGY	ADDRESS FLO
TYPE DAM	BECH SOME TYPE INSPECTION PRODE SITE CONDITIONS WELL
<u> </u>	BEODREY AS A BEST DISTRET FOROMUP COTHER DRY D'STEMEDIER DOTTIER
HAZARD DESCRIPTION  Jee file	HAZARD CLASS   Intermedias (B)
Don Scruggs, Alex Papp, Alex	Vog   Coff   Wirdsen   M. Inspection letter   Dem safety order   Deficiency letter   Deficiency letter
attendance * It rained heavil	This morning Monitoring PRE notice Periodic reinspection Minor repair Projection Other reinspection
	Li Engineering Li Inspection by RE
AREA PROBLEMS	COMMENTS
Passaulasses	
☐ 2 Trees ☐ 12 Cracks ☐ 3.High bushes ☐ 13.Undermining	Vegetation a waters edge U/S should be removed periodically
μ □ 4.Burrows □14.Holes	- Scarp onuls near transmission tower 1-2ft - New scarp in cell In would be addressed w
9 5.Wave erosion 15.Spelling	- New scarn in cell in would be addressed w)
☐ 6.Livestock darmage ☐16.Displaced join	
## 4.Burrows	
20. □ 19.Bulges □19.Other	Improved next remans luxered (Cell) awaiting repair
☐ 10.Sparse rtp rsp	Totale 3 of repair plan
1.None 🔲 1.Cracks	COVER: Vegetation S Gravel Concrete Aspiralt Cons
2 Trees 12 Spelling	
3.High bushes 13.Deterlorated jo	intres
4.Burrows 14.Displaced joints  5.Buts 15.Exposed reints	
5.Ruts 15.Exposed reinto	rcamen(
5 5.Livestock damage 15.Other	
☐ 8.Unlevel	
☐ 9.Missifignment	
10.Has overtopped	
☐ 1.None ☐ 11.Seepage ☐ 2.Trees ☐ 12.Bolls	COVER: Mivegession D Rip rap D Concrete D Other
	Heavy snow/reconstrains, grass cover stressed in.
☐ 3.High bushes ☐ 13.Cracks ☐ 4.Burrows ☐ 14.Holes	Henry of cloud cooks (report of and)
4.Burrows	drainage areas of slopes, seeding repair of any
CONSTRUCTION   1   1   1   1   1   1   1   1   1	Minimeroded areas recommended.  Some mower rutting, repair as needed  Some mower rutting, repair as needed  Growd cover needed ander double borrels D/s slope
7.Slides 017.Deteriorated join	Some mower ruthing / repair to burrels DIS slope
B 0 8.Depressions 0 18.Exposed reinfor	- Grand cover needed ander auspie
5.Livestock damage   15.Displaced joints   17.Deteriorated joints   18.Exposed reinfor   19.Other   19.Other   19.Wetness	
☐ 1.None ☐ 11.Seepage	COVER: ☐ Vegetation
☐ 2.Treet ☐ 12.Bolls	Continue to remove vegetation in Tip raple for Trecommend
☐ 3.High busines ☐ 13.Cracks ☐ 4.Burrows ☐ 14.Holes	Continue to remove vegetation in ris rapa for recommend Pondine /activeflow in all areas below draincage Swales due to rain drainage,
S	ronding activition in all
	Swales ) due to rain arainage;
7.Sides 17.Deteriormed join	- I
☐ 8.Depressions ☐ 18.Exposed reinlon	Inames
☐ S.Buber ☐ 19.Undermining ☐ 10.Wetness ☐ ☐ 20.Other	
Lighten Latinage	

AREA PROSUEMS	COMMENTS
☐ 1.None ☐ 11.Seepage	COVER: Wepseldon Prop Concrete Concrete
2 Inches In 12 Bolls Inches In 13 Creates	
☐ 4.Holes ☐ 14.Holes ☐ 5.Erosion ☐ 15.Spating	
# ☐ 6.Livestack damage ☐ 16.Displaced joints	
6. Livestack darrage 16. Displaced joints 17. Sides 17. Deteriorated joints 2. Bepressions 18. Exposed reinforced	
	nont
■ 9.Bulges □ 19.Undermining	
10.Wetness 220.Other	
1.Nane   11.Joint displacement	TYPERSONE Concrete riser of RCP barrel
2 2No trashquard 12 Undermined	
3. Obstructed ☐ 13. Voids	No problems observed, active flow
☐ 4.Plugged ☐ 14.Erasion ☐ 5.Rusted ☐ 15 Holes	
☐ 6.Damaged ☐ 16.Conduit collasped ☐ 7.Gates leaking ☐ 17.Spatting ☐ 8.Joints leaking ☐ 18.Doites trademarks	
E D8_ioints leaking D18.Outlet undercutting	
9.Cracks 19.Missägnment	
☐ 10_Joint deterioration ☐ 20.Other	
1. None	
C 1 1 Notifie de la California de la Cal	TYPE/SIZE: Same as
☐ 2.No ES ☐ 12.Undermining ☐ 3.Same as PS ☐ 13.Voids ☐ 4.Obstructed ☐ 14.Holes	
4.Obstructed 14.Holes	
1990 CONTRACTOR 1990 1990 1990 1990 1990 1990 1990 199	
☐ ☐ 6.Displaced rip rap ☐ 16.Spelling	
7.Spense rip rap 17.Outlet erosion	
■ □9.Cracks □ 19.Inedequate capacity □10.Joint detentoration □20.Other	
000000000	
10000000000000000000000000000000000000	TYPE: None observed
E D2.No bottom drain	
O D 3.Bottom drain inoperable  D 4.Subsurface drain dry	
14.Subsurface drain dry 15.Subsurface drain muddy flow	
5. Subsurface drain obstructed	
☐ 7.No animal guaint ☐ 8.Other	
E □ 8.Other	
SKETCHES/COMMENTS	i, and the second secon
Janvory 25, 2011 - Repair Schedu	the Response Letter issued - scarp repairs to take supleted and after EPA finalizes regulations for the members provided omergency conditions don't occur to 1 is "diained impumbings awarting repair", must 5 or lower.
Prezometers monitored monthly	

### DAM SAFETY INSPECTION REPORT

		re Ash Basm I	DAM GASTO OU EPLIN, KOMMIK 3/1/201
L	WHER Ser Al	<u>e                                      </u>	Jee file
		ete gravity Concrete arch ete buttress OStone mesonery	TYPE INSPECTION Perodo SITE CONDITIONS AWAY
	ZARD DESCRIPTION		HAZARD CLASS Intermediate (B)
RE	MARKS TOL		ACTION RECOMMENDATIONS Imprection by DSE
	Follow-up		None Inspection letter Dem salety order  Maintenance Deficiency letter Enforcement
		, Bob Scruggs	
7072			
AR	EA ☐ 1.None	PROBLEMS  11.Displaced rip rap	COVER:   Vegetation   Rip rep   Concrete   Asphalt   Other
95	☐ 2.Trees	12.Cracks	CASELL TEACHERS, T. LAND. C. CONTROL T. C. CANA.
UPSTREAM GLOPE / FACE	3.High bushes	13.Undermining	DNZ
벁	4.Burrows	14.Fioles	
2	5.Wave erosion	15.Spalling	
	6.Livestock dame;	·	
Æ	☐ 5.Depressions	☐17.Deteriorated joints ☐18.Exposed reinforcemen	nt .
	☐ 9.Bulpes	119.Other	
	10.Spense rip rep	The second second second	
	1.None	111.Cracks	COVER:   Vegetation   Gravel   Concrete   Asphalt   Other
	2.Trees	12.Spelling	
	3.High bushes	13.Deteriorated joints	DNZ.
¥	4.Burrows	14.Displaced joints	
P.	5.Ruts	15.Exposed reinforcement	
8	5.Livestock damage 7.Depressions	16.Other	
-	☐ a.Unievel		
	9.Missilgnment	•	
	10.Has overtopped		
n .	☐ 1.None	☐11.Seepage	COVER: MVegeration    Rip rap
FACE	☐ 2.Trees	12.9olis	
	3.High bushes	13.Cracks	Toe drain outlets obserred were plastic pype
8	4.6unows	14.Holes	TOE MIAIN DOTOES OF
er .	5.Erosion 6.Livestock damage	15.Spalling 16.Displaced joints	
Ŧ.	7.Sildes	17.Deteriorated joints	
DOWNSTREAM SLOPE	8.Depressions	☐ 18.Exposed reinforcement	
₹	9.6ulges	19.Other	
ä	10.Wetness		
	☐ 1.None	□11.Seepage	COVER: W Vegetation W Rip rap Concrete C Other
	☐ 2.Trees	12.30lls	
	3.High busines	13.Cracks	land help
CONTACT	4.Burrows	14.Holes	CMP Road colverts observed below
5	S.Erosion	15.Spelling	toe of dam
	☐ 6.Livestock damage	15.Displaced joints 17.Deteriorated joints	toe or varn
106	7.Slides	18. Exposed reinforcement	
	S.Bubes	19.Undermining	
	10.Wetness	120.0ther	
	<del> </del>		

AREA PROBLEMS	
1.None 11.Seepage	CONER: Vegenation   Rosep   Concrete   Other
a ☐ 2.Trees ☐ 12.Balls ☐ 3.High bushes ☐ 13.Cracks	DNZ
Q ☐ 3.High bushes ☐ 13.Crecks E ☐ 4.Burrows ☐ 14.Holes C ☐ 5.Erosion ☐ 15.Spatting.	
G.Livestack damage   16.Displaced joints   7.Sildes   17.Deteriorated joints   18.Exposed reinforcement   18.Exposed reinforcem	
2 0 8.Depressions 18.Exposed reinforcement 19.Undermining	
☐10.Wetness ☐20.Other	
☐ 1.None ☐ 11.Joint displacement ☐ 2.No trashguard ☐ 12.Undermined	THEISTE: Concrete riser with RCP barrel
3. Obstructed ☐ 13. Volds	Clear flow, outlet intact, stable
☐ ☐ 4.Plugged ☐ 14.Erosion ☐ 5.Rusted ☐ 15.Hofet	Clear From OUTLET MIACI, STABLE
☐ 6.Damaged ☐ 16.Conduit collasped	
□ 7. Gates leaking □ 17. Sparling □ 8. Joints leaking □ 18. Outlet undersumes	
9.Crecks 19.Missignment	
☐ 10_Joint deterioration ☐ 20_Other	
To the Ec	TYPESUE: Same as
► □3.Serne as PS □ 13.Volds	
14. Obstructed 14. Holes	
Displaced dp rap	
□ B.Joints leaking □ 18.Miselignment □ 19.Cracks □ 19.Inedequate capacity	
10 Joint deterioration 20.0ther	
30000000000000000000000000000000000000	PE:
2.No bottom drain 3.Bottom drain incpenable	C. la de de contra
4.Substitute drain day	See downstream slope section,
5.Subsurface drain muddy flow  0.6.Subsurface drain obstructed	
☐ 7.No animat guard	
□ 8.Other	
TCHES/COMMENTS	

SKI