



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: Riverbend Ash Basin Intermediate Dam
GASTO-099 – 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 records indicate that you are the owner and/or responsible for the referenced dam, which is located off NC HWY 16 in Gaston County and were inspected on February 19, 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. Mild sloughing has occurred in the upstream slope at the former water's edge, made visible by the recent lowering of the impoundment. It is recommended that you stabilize the area and monitor on a routine basis. Please notify this office if you observe any sudden changes.

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 remove undergrowth, woody vegetation, and trees less than six inches in diameter from the slopes and crest of the dam and establish a good grass cover. All limb debris should be removed as well. This will serve to:
 - a. prevent the formation of a root system which might significantly increase seepage through the dam which could ultimately result in failure of the structure;
 - b. reduce the possibility of damage to the dam due to the uprooting of trees by wind or other natural causes; and
 - c. facilitate ease of inspection and increase the likelihood of early detection of more serious problems connected with the dam.

Additional information on the problems associated with undesirable vegetation on dams can be found in free publications such as FEMA 534, *Impacts of Plants on Earthen Dams*. This document can be viewed online at <http://www.damsafety.org/media/Documents/PDF/fema-534.pdf>.

3. Periodically check the operation of all drain valve facilities. This will ensure satisfactory operation of the drains should an emergency situation arise.
4. 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 Mountain Island Lake 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.

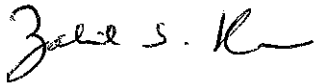
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Riverbend Ash Basin Intermediate Dam
GASTO-099

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 RIVERBEND ASH BASIN INTERMEDIATE		COUNTY CASO	NO. 099	INSPECTED BY Broadway Elin, Kormanik, Schweiber	DATE 2/19/2014
OWNER Duke Energy		ADDRESS			PHONE

TYPE DAM <input type="checkbox"/> Concrete gravity <input type="checkbox"/> Concrete arch <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> Embankment <input type="checkbox"/> Concrete buttress <input type="checkbox"/> Stone masonry Ash Basin		TYPE INSPECTION <input type="checkbox"/> Initial <input type="checkbox"/> Followup <input type="checkbox"/> Periodic <input type="checkbox"/> Other	SITE CONDITIONS <input type="checkbox"/> Dry <input type="checkbox"/> Snowcover <input type="checkbox"/> Wet <input type="checkbox"/> Other
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HAZARD DESCRIPTION See file	HAZARD CLASS <input type="checkbox"/> Low (A) <input type="checkbox"/> Intermediate (B) <input checked="" type="checkbox"/> High (C)
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REMARKS Donna Burrell, Alex Papp, Larry Baxley, Mike McElroy, Bob Drom, Alex Varg, Scott Nordgren in attendance. Heavy rain this morning. 70's, sunny	ACTION <input type="checkbox"/> None <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Monitoring <input type="checkbox"/> Minor repair <input type="checkbox"/> Engineering	RECOMMENDATIONS <input checked="" type="checkbox"/> Inspection letter <input type="checkbox"/> Deficiency letter <input type="checkbox"/> RE notice <input type="checkbox"/> Engineering study <input type="checkbox"/> Inspection by RE <input type="checkbox"/> Inspection by DSE <input type="checkbox"/> Dam safety order <input type="checkbox"/> Enforcement <input type="checkbox"/> Periodic reinspection <input type="checkbox"/> Other reinspection
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AREA	PROBLEMS	COMMENTS
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UPSTREAM SLOPE / FACE	<input type="checkbox"/> 1. None <input type="checkbox"/> 11. Displaced rip rap <input type="checkbox"/> 2. Trees <input type="checkbox"/> 12. Cracks <input type="checkbox"/> 3. High bushes <input type="checkbox"/> 13. Undermining <input type="checkbox"/> 4. Burrows <input type="checkbox"/> 14. Holes <input type="checkbox"/> 5. Wave erosion <input type="checkbox"/> 15. Spalling <input type="checkbox"/> 6. Livestock damage <input type="checkbox"/> 16. Displaced joints <input type="checkbox"/> 7. Slides <input type="checkbox"/> 17. Deteriorated joints <input type="checkbox"/> 8. Depressions <input type="checkbox"/> 18. Exposed reinforcement <input type="checkbox"/> 9. Bulges <input type="checkbox"/> 19. Other <input type="checkbox"/> 10. Sparse rip rap	COVER: <input checked="" type="checkbox"/> Vegetation <input type="checkbox"/> Rip rap <input type="checkbox"/> Concrete <input type="checkbox"/> Asphalt <input type="checkbox"/> Other U/s shelf visible due to lowered impoundment, sloughing in area below former normal pool in channel along u/s slope. Recommend stabilization/monitoring at this time. Mild wave erosion
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TOP OF DAM	<input checked="" type="checkbox"/> 1. None <input type="checkbox"/> 11. Cracks <input type="checkbox"/> 2. Trees <input type="checkbox"/> 12. Spalling <input type="checkbox"/> 3. High bushes <input type="checkbox"/> 13. Deteriorated joints <input type="checkbox"/> 4. Burrows <input type="checkbox"/> 14. Displaced joints <input type="checkbox"/> 5. Ruts <input type="checkbox"/> 15. Exposed reinforcement <input type="checkbox"/> 6. Livestock damage <input type="checkbox"/> 16. Other <input type="checkbox"/> 7. Depressions <input type="checkbox"/> 8. Unlevel <input type="checkbox"/> 9. Misalignment <input type="checkbox"/> 10. Has overtopped	COVER: <input checked="" type="checkbox"/> Vegetation <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Concrete <input type="checkbox"/> Asphalt <input type="checkbox"/> Other No problems observed.
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DOWNSTREAM SLOPE / FACE	<input checked="" type="checkbox"/> 1. None <input type="checkbox"/> 11. Seepage <input type="checkbox"/> 2. Trees <input type="checkbox"/> 12. Bolls <input type="checkbox"/> 3. High bushes <input type="checkbox"/> 13. Cracks <input type="checkbox"/> 4. Burrows <input type="checkbox"/> 14. Holes <input type="checkbox"/> 5. Erosion <input type="checkbox"/> 15. Spalling <input type="checkbox"/> 6. Livestock damage <input type="checkbox"/> 16. Displaced joints <input type="checkbox"/> 7. Slides <input type="checkbox"/> 17. Deteriorated joints <input type="checkbox"/> 8. Depressions <input type="checkbox"/> 18. Exposed reinforcement <input type="checkbox"/> 9. Bulges <input type="checkbox"/> 19. Other <input type="checkbox"/> 10. Wetness	COVER: <input checked="" type="checkbox"/> Vegetation <input checked="" type="checkbox"/> Rip rap <input type="checkbox"/> Concrete <input type="checkbox"/> Other No problems observed.
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TOP CONTACT	<input type="checkbox"/> 1. None <input type="checkbox"/> 11. Seepage <input type="checkbox"/> 2. Trees <input type="checkbox"/> 12. Bolls <input type="checkbox"/> 3. High bushes <input type="checkbox"/> 13. Cracks <input type="checkbox"/> 4. Burrows <input type="checkbox"/> 14. Holes <input type="checkbox"/> 5. Erosion <input type="checkbox"/> 15. Spalling <input type="checkbox"/> 6. Livestock damage <input type="checkbox"/> 16. Displaced joints <input type="checkbox"/> 7. Slides <input type="checkbox"/> 17. Deteriorated joints <input type="checkbox"/> 8. Depressions <input type="checkbox"/> 18. Exposed reinforcement <input type="checkbox"/> 9. Bulges <input type="checkbox"/> 19. Undermining <input type="checkbox"/> 10. Wetness <input type="checkbox"/> 20. Other	COVER: <input checked="" type="checkbox"/> Vegetation <input checked="" type="checkbox"/> Rip rap <input type="checkbox"/> Concrete <input type="checkbox"/> Other Mild wave erosion consistent w/ prior inspection
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AREA	PROBLEMS	COMMENTS
ADJUTMENT CONTACTS	<input checked="" type="checkbox"/> 1. None <input type="checkbox"/> 2. Trees <input type="checkbox"/> 3. High bushes <input type="checkbox"/> 4. Burrows <input type="checkbox"/> 5. Erosion <input type="checkbox"/> 6. Livestock damage <input type="checkbox"/> 7. Slopes <input type="checkbox"/> 8. Depressions <input type="checkbox"/> 9. Bulges <input type="checkbox"/> 10. Wetness <input type="checkbox"/> 11. Seepage <input type="checkbox"/> 12. Boils <input type="checkbox"/> 13. Cracks <input type="checkbox"/> 14. Holes <input type="checkbox"/> 15. Spalling <input type="checkbox"/> 16. Displaced joints <input type="checkbox"/> 17. Deteriorated joints <input type="checkbox"/> 18. Exposed reinforcement <input type="checkbox"/> 19. Undermining <input type="checkbox"/> 20. Other	COVER: <input checked="" type="checkbox"/> Vegetation <input checked="" type="checkbox"/> Rip rap <input type="checkbox"/> Concrete <input type="checkbox"/> Other
PRINCIPAL SPILLWAY	<input type="checkbox"/> 1. None <input type="checkbox"/> 2. No trashguard <input type="checkbox"/> 3. Obstructed <input type="checkbox"/> 4. Plugged <input type="checkbox"/> 5. Rusted <input type="checkbox"/> 6. Damaged <input type="checkbox"/> 7. Gates leaking <input type="checkbox"/> 8. Joints leaking <input type="checkbox"/> 9. Cracks <input type="checkbox"/> 10. Joint deterioration <input type="checkbox"/> 11. Joint displacement <input type="checkbox"/> 12. Undermined <input type="checkbox"/> 13. Voids <input type="checkbox"/> 14. Erosion <input type="checkbox"/> 15. Holes <input type="checkbox"/> 16. Conduit collapsed <input type="checkbox"/> 17. Spalling <input type="checkbox"/> 18. Outlet undercutting <input type="checkbox"/> 19. Misalignment <input type="checkbox"/> 20. Other	TYPE/SIZE: <i>N/A</i>
EMERGENCY SPILLWAY	<input type="checkbox"/> 1. None <input type="checkbox"/> 2. No ES <input type="checkbox"/> 3. Same as PS <input type="checkbox"/> 4. Obstructed <input type="checkbox"/> 5. Erosion <input type="checkbox"/> 6. Displaced rip rap <input type="checkbox"/> 7. Sparse rip rap <input type="checkbox"/> 8. Joints leaking <input type="checkbox"/> 9. Cracks <input type="checkbox"/> 10. Joint deterioration <input type="checkbox"/> 11. Joint displacement <input type="checkbox"/> 12. Undermining <input type="checkbox"/> 13. Voids <input type="checkbox"/> 14. Holes <input type="checkbox"/> 15. Exposed reinforcement <input type="checkbox"/> 16. Spalling <input type="checkbox"/> 17. Outlet erosion <input type="checkbox"/> 18. Misalignment <input type="checkbox"/> 19. Inadequate capacity <input type="checkbox"/> 20. Other	TYPE/SIZE: <i>N/A</i>
DRAINS / OTHER OUTLETS	<input type="checkbox"/> 1. None <input type="checkbox"/> 2. No bottom drain <input type="checkbox"/> 3. Bottom drain inoperable <input type="checkbox"/> 4. Subsurface drain dry <input type="checkbox"/> 5. Subsurface drain muddy flow <input type="checkbox"/> 6. Subsurface drain obstructed <input type="checkbox"/> 7. No animal guard <input type="checkbox"/> 8. Other	TYPE: <i>N/A</i>
SKETCHES/COMMENTS		