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July 18, 2013

Wellie L. Gilbert, Sr. Environmental Specialist
Robinson Plant
3512 Lakeside Drive
Hartsville, SC 29550



Subject: Routine Preliminary Inspection of LAKE ROBINSON DAM, D 0010, Class C1,
High Hazard Dam, Darlington County

Dear Sir:

On June 3, 2013, I conducted a routine inspection of the dam referenced above. Your cooperation during the inspection was greatly appreciated. I am enclosing a copy of my inspection report and a transfer of ownership form. For your convenience, this form can be used to notify the Department if you sell or transfer title of your dam. Additionally, I am enclosing a copy of the Department's Surveillance, Emergency Notification, and Action Plan for South Carolina Regulated Dams. This document, form *DHEC 2606 (11/2012)*, should be completed and a copy of the completed form must be returned to DHEC within **90 days**. If you have any questions or comments regarding this requirement, please don't hesitate to contact me.

In general the dam appears to be in good shape and well maintained. The official condition assessment rating is "fair". Fair condition ratings are assigned to dams that have no existing dam safety deficiencies recognized for normal loading conditions. However, rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. The following issues were observed on the dam and should be closely monitored and corrected:

1. A small amount of seepage was found along the right embankment. Please continue to monitor this seepage. Keep in mind that any increase in seepage flow, change in color, or sediment deposits forming below the seepage are indicators of a larger problem. If any of these signs are observed, please take appropriate actions.
2. A few areas of subsidence were noted along the upstream face of the dam. Please keep an eye on these areas mainly located within the portion of the dam protected by riprap armoring. Additional action may be necessary if these areas change in size or depth.
3. A few small ruts and depressions "mud puddles" have formed on the crest of the dam. Water pooling on the crest of a dam is undesirable because of the resulting hydrostatic pressure that builds within the embankment. The additional pressure exerted in the dam's embankment by the intrusion of surface water can create an unstable situation. These depressions and ruts should be corrected before the next inspection. Please be sure not to change the crest elevation as designed when correcting this issue and the final grade should convey flow back into the reservoir, not across the downstream embankment.
4. Overall, the dam was free of harmful plants and very little animal activity was observed. Please be sure the small trees, which were recently sprayed, are removed before the next inspection. In general, trees less than 4 inches can be removed without obtaining a repair permit. Please keep this in mind if you begin removing the deleterious vegetation from the left abutment area on the far side of the barricades. For more information, please consult FEMA publication 534. You can download a copy of this publication from the following website: <http://www.damsafety.org>



Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: D 0011 & Hazard Class 1 B. Name of Dam: Prestwood Lake
C. Inspection Date (12/10/2014) & Time: 10:00 AM D. Date of Last Inspection: (03/23/2012)
E. Location-County/City: Darlington / Hartsville F. EQC Regional Office: Florence
G. Inspector's Name: Kevin Kim
H. Owner's Name: SONOCO
I. Contact Person (if different from above): Tim Middleton, P.E.
J. Dam Owner's or Contact Person's Phone Numbers: Home () - Office (843) 383 - 3471 Other (910) 734 - 2116
K. Dam Owner's or Contact Person's mailing address: Address 1 1 North 2nd Street Address 2 (optional) City Hartsville, State SC Zip Code 29550 -

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

- a) Satisfactory [] b) Fair [x] c) Poor [] d) Unsatisfactory [] e) Not Rated []

Section III (Dam Inspection Checklist)

A. Dam Crest

- i. Vegetation (grass, trees weeds)? Large tree north of spillway needs to be closely monitored or removed.
ii. Animal activity observed? None noted.
iii. Any obvious alteration or repairs made? None noted.
iv. Erosion noticed on crest? None noted.
v. Any visible settlement, misalignment or cracks? Deterioration or corrosion of metal structure.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

- i. Vegetation (grass, trees weeds)? Some weedy vegetation on the earthen part of the dam need to be removed.
- ii. Animal activity observed? None noted.
- iii. Any obvious alterations or repairs made? None noted.
- iv. Erosion observed on upstream slope? Minor erosion due to wave action. Several slumps were noted.
- v. Settlement or cracks visible in slope? None noted.

C. Down Stream Slope

- i. Vegetation (grass, trees weeds)? Weedy vegetation on the left abutment makes it unable to inspect for seepage.
- ii. Animal activity observed? None noted.
- iii. Any obvious alterations or repairs made? None noted.
- iv. Erosion observed on down stream slope? None noted.
- v. Settlement or cracks visible in slope? None noted.
- vi. Toe drains flowing? N/A
- vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Looking from the downstream face of the dam, one water spring under the maintenance building was noted. Approximately 5-10 gpm. Clear.

D. Primary Spillway

- i. Any visible deterioration of structure? Steel beams are rusty and experiencing deterioration.
- ii. Is there an obvious need to repair or replace trash rack? N/A
- iii. Any noticeable problems with debris? None noted.
- iv. Is valve or gate present? Gates present.

E. Outlet Pipe

- i. Any water visibly flowing or leaking outside of the discharge pipe? N/A
- ii. Describe any deflection or damage observed to the pipe: N/A
- iii. Visible condition of outlet channel: N/A

F. Auxiliary (Emergency) Spillway

- i. Noticeable obstructions to flow? None noted.
- ii. Animal activity observed? None noted.
- iii. Any noticeable deterioration in the approach or discharge channel? None noted.
- iv. Any visible deterioration of structure's crest? None noted.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? N/A

vi. If applicable, any visible leakage below concrete spillway? N/A

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification?

None

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? To be submitted.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

The large tree located north of spillway needs to be monitored or removed.

Some weedy vegetation on the upstream slope need to be removed for a thorough inspection.

Soil erosion and slumps were noted on the upstream slope of the dam. Adding rip-raps could be one way to reinforce the dam structure.

One water spring was noted under the maintenance building and needs to be closely monitored and considered for repair.

Gates should be maintained as needed to pass designed/regulated flood (100yr to 1/2 PMF) successfully.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and
Impoundment Structures Regulations – DHEC 2604
R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

- A) Dam Number; Enter the Dam's inventory number.
- B) Name of Dam; Enter the common name of dam found within EFIS.
- C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
- D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
- E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
- F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
- G) Inspector's Name: Enter the name of the person performing the inspection.
- H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
- I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
- J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
- K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

- a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations for dams or tolerable risk guidelines.

- b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
- c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
- d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
- e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector through the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.



Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: D_0011 & Hazard Class_1 B. Name of Dam: Prestwood Lake
C. Inspection Date (12/10/2014) & Time: 10:00 AM D. Date of Last Inspection: (03/23/2012)
E. Location-County/City: Darlington / Hartsville F. EQC Regional Office: Florence
G. Inspector's Name: Kevin Kim
H. Owner's Name: SONOCO
I. Contact Person (if different from above): Tim Middleton, P.E.
J. Dam Owner's or Contact Person's Phone Numbers: Home () - Office (843) 383 - 3471 Other (910) 734 - 2116
K. Dam Owner's or Contact Person's mailing address: Address 1 1 North 2nd Street Address 2 (optional) City Hartsville, State SC Zip Code 29550 -

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

- a) Satisfactory [] b) Fair [x] c) Poor [] d) Unsatisfactory [] e) Not Rated []

Section III (Dam Inspection Checklist)

A. Dam Crest

- i. Vegetation (grass, trees weeds)? Large tree north of spillway needs to be closely monitored or removed.
ii. Animal activity observed? None noted.
iii. Any obvious alteration or repairs made? None noted.
iv. Erosion noticed on crest? None noted.
v. Any visible settlement, misalignment or cracks? Deterioration or corrosion of metal structure.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

- i. Vegetation (grass, trees weeds)? Some weedy vegetation on the earthen part of the dam need to be removed.
- ii. Animal activity observed? None noted.
- iii. Any obvious alterations or repairs made? None noted.
- iv. Erosion observed on upstream slope? Minor erosion due to wave action. Several slumps were noted.
- v. Settlement or cracks visible in slope? None noted.

C. Down Stream Slope

- i. Vegetation (grass, trees weeds)? Weedy vegetation on the left abutment makes it unable to inspect for seepage.
- ii. Animal activity observed? None noted.
- iii. Any obvious alterations or repairs made? None noted.
- iv. Erosion observed on down stream slope? None noted.
- v. Settlement or cracks visible in slope? None noted.
- vi. Toe drains flowing? N/A
- vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Looking from the downstream face of the dam, one water spring under the maintenance building was noted. Approximately 5-10 gpm. Clear.

D. Primary Spillway

- i. Any visible deterioration of structure? Steel beams are rusty and experiencing deterioration.
- ii. Is there an obvious need to repair or replace trash rack? N/A
- iii. Any noticeable problems with debris? None noted.
- iv. Is valve or gate present? Gates present.

E. Outlet Pipe

- i. Any water visibly flowing or leaking outside of the discharge pipe? N/A
- ii. Describe any deflection or damage observed to the pipe: N/A
- iii. Visible condition of outlet channel: N/A

F. Auxiliary (Emergency) Spillway

- i. Noticeable obstructions to flow? None noted.
- ii. Animal activity observed? None noted.
- iii. Any noticeable deterioration in the approach or discharge channel? None noted.
- iv. Any visible deterioration of structure's crest? None noted.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? N/A

vi. If applicable, any visible leakage below concrete spillway? N/A

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? None

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? To be submitted.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

The large tree located north of spillway needs to be monitored or removed.

Some weedy vegetation on the upstream slope need to be removed for a thorough inspection.

Soil erosion and slumps were noted on the upstream slope of the dam. Adding rip-raps could be one way to reinforce the dam structure.

One water spring was noted under the maintenance building and needs to be closely monitored and considered for repair.

Gates should be maintained as needed to pass designed/regulated flood (100yr to 1/2 PMF) successfully.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and
Impoundment Structures Regulations – DHEC 2604
R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

- A) Dam Number; Enter the Dam's inventory number.
- B) Name of Dam; Enter the common name of dam found within EFIS.
- C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
- D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
- E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
- F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
- G) Inspector's Name: Enter the name of the person performing the inspection.
- H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
- I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
- J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
- K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

- a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations for dams or tolerable risk guidelines.

- b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
- c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
- d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
- e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector through the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

November 21, 2014

SC Department of Natural Resources
PO Box 167
Columbia, SC 29302-0167

RE: D-0021 “Paul Wallace Lake Dam” PERIODIC RE-INSPECTION FOLLOWUP

To Whom It May Concern:

The Department has the responsibility and authority to routinely inspect State regulated dams. On November 10, 2014, Pee Dee EQC Florence personnel conducted routine inspection of the Paul Wallace Lake Dam. This inspection was to determine that the above-mentioned dam is in compliance with the Dams, Reservoirs Safety Act Regulations (R.72-105 through R.72-145)

The following are areas of concern that were noted during the inspection:

- 1) Trees located on the structure will need to be evaluated by a trained professional on an individual basis, since their roots can cause “piping” of impounded water, and a falling tree can remove substantial amounts of soil, weakening the dam and possibly causing failure. Simply cutting down the trees is unacceptable, as a rotting stump can leave voids, which create animal habitat and pathways for water. Some trees may require removal, and, depending on the location of the removed trees, may require a permit from the Bureau of Water.
- 2) Brush and weedy vegetation on the downstream and upstream slope of the dam make it difficult to monitor the area for seeps, erosion, and other signs of deterioration of the structure. Clearing the downstream and upstream face of low-growing vegetation will allow inspectors to better monitor the structure.
- 3) There is a fallen dead tree on top of the left outlet structure that could inhibit flow. Please remove this tree.
- 4) Handrail structure around the primary spillway is showing signs of rust and corrosion. Please monitor on a regular basis.

We suggest that a routine maintenance program be established for the dam. This should include removing the brush and small trees, repairing any areas of erosion, maintaining a good cover of grass on the slopes, and keeping the spillway system free from obstructions and in good operating condition. Please include periodic inspections of the dam and inform this office of any significant changes or problems that may affect the safety of the dam.

Any alteration or major repairs of the dam require a permit from this agency and must be made under the direction of a qualified engineer.

Provisions in the South Carolina Dams and Reservoirs Safety Act require the owner to notify the Department within 30 days after transferring title or control of the dam. Notification forms (D-2605) are available from this office on request.

Please note that as of July 25, 1997, it is the responsibility of the dam owner to notify any downstream property owners in the event of a failure or near-failure of the dam. A copy of the Emergency Notification and Action Plan is attached. **Please complete this form and submit a copy to our office no later than December 19, 2014.** The emergency contact for your area is Marlboro County Emergency Preparedness Agency. The MCEP office can be contacted by dialing 911 in an emergency or 843-479-5642 during normal business hours.

Please call if you require further assistance or have any questions.

Sincerely,



Kevin Kim
Regional Engineer Associate
SCDHEC
PEE DEE EQC Region – Florence/Sumter
843-661-4825

Attachments

cc: John Poole, SCDHEC Bureau of Water, Dams and Reservoirs Safety Program



Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: D 0021 & Hazard Class 1 B. Name of Dam: Lake Paul Wallace
C. Inspection Date (11/10/2014) & Time: 15:00 D. Date of Last Inspection: (12/12/2012)
E. Location-County/City: Marlboro / Bennettsville F. EQC Regional Office: Florence
G. Inspector's Name: Kevin Kim
H. Owner's Name: SCDNR
I. Contact Person (if different from above):
J. Dam Owner's or Contact Person's Phone Numbers: Home () - Office (803) 734 - 9100 Other () -
K. Dam Owner's or Contact Person's mailing address:
Address 1 PO Box 167
Address 2 (optional)
City Columbia, State SC Zip Code 29202 - 0167

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

- a) Satisfactory [] b) Fair [x] c) Poor [] d) Unsatisfactory [] e) Not Rated []

Section III (Dam Inspection Checklist)

A. Dam Crest

- i. Vegetation (grass, trees weeds)? None noted.
ii. Animal activity observed? None noted.
iii. Any obvious alteration or repairs made? None noted.
iv. Erosion noticed on crest? None noted.
v. Any visible settlement, misalignment or cracks? None Noted.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

i. Vegetation (grass, trees weeds)? Some weeds and trees were observed. Trees located inside the fence need to be evaluated by a qualified professional.

ii. Animal activity observed? None noted.

iii. Any obvious alterations or repairs made? None noted.

iv. Erosion observed on upstream slope? None visible due to vegetation.

v. Settlement or cracks visible in slope? None visible due to vegetation.

C. Down Stream Slope

i. Vegetation (grass, trees weeds)? Heavily vegetated with weeds, brush, and trees. One dead tree on the left and two trees on the right side of the downstream slope were observed.

ii. Animal activity observed? None noted.

iii. Any obvious alterations or repairs made? None noted.

iv. Erosion observed on down stream slope? Some soil erosions.

v. Settlement or cracks visible in slope? None noted.

vi. Toe drains flowing? N/A

vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: None noted.

D. Primary Spillway

i. Any visible deterioration of structure? The bottom parts of the handrails that surround the spillway are showing signs of corrosion.

The gate valve structure is also rusted or corroded.

ii. Is there an obvious need to repair or replace trash rack? None noted.

iii. Any noticeable problems with debris? None noted.

iv. Is valve or gate present? Yes

E. Outlet Pipe

i. Any water visibly flowing or leaking outside of the discharge pipe? None noted.

ii. Describe any deflection or damage observed to the pipe: None noted.

iii. Visible condition of outlet channel: Fair.

F. Auxiliary (Emergency) Spillway

i. Noticeable obstructions to flow? None noted.

ii. Animal activity observed? None noted.

iii. Any noticeable deterioration in the approach or discharge channel? None noted.

iv. Any visible deterioration of structure's crest? None noted.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? None noted.

vi. If applicable, any visible leakage below concrete spillway? None noted.

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? None noted.

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? No. To be provided at a later date.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated? _____

iii. Does EAP contain specific actions to take if the dam has failed or is near failure? _____

Section IV (Conclusions)

General comments and recommendations:

-Initial notification letter was sent to the wrong address and returned to Florence EQC office. Inspection report will be sent to the correct address of DNR.

-Trees on the downstream and upstream slopes should be evaluated by a qualified professional and removed if needed.

-Keep brush and weedy vegetation under control.

-Soil erosions around the downstream slope and outlet structure (culvert) should be closely monitored during/after heavy rain event.

Preliminary Dam Inspection Disclaimer:

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Impoundment Structures Regulations – DHEC 2604
R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

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Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

- a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations for dams or tolerable risk guidelines.

- b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
- c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
- d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
- e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector through the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

December 5, 2014

Ms. Judy Tiller
PO BOX 155
McBee, SC 29101

RE: D-3227 “Kirkleys Pond Dam” PERIODIC RE-INSPECTION FOLLOWUP

Dear Ms. Tiller:

The Department has the responsibility and authority to routinely inspect State regulated dams. On December 3, 2014, Pee Dee EQC Florence personnel conducted routine inspection of the Kirkleys Pond Dam. This inspection was to determine that the above-mentioned dam is in compliance with the Dams, Reservoirs Safety Act Regulations (R.72-105 through R.72-145)

The dam is assessed to be in generally good condition.

The following are areas of concern that were noted during the inspection:

- 1) Brush and weedy vegetation on the downstream (upper right side) and upstream slope of the dam make it difficult to monitor the area for seeps, erosion, and other signs of deterioration of the structure. Clearing the downstream and upstream face of growing vegetation will allow inspectors to better monitor the structure.
- 2) Brushes growing at the toe of the dam near manhole prevent an inspector from entering the outlet pipe area. Easy access to the outlet pipe will need to be made for an inspector to conduct more precise inspection.

We suggest that a routine maintenance program be established for the dam. This should include removing the brush and small trees, repairing any areas of erosion, maintaining a good cover of grass on the slopes, and keeping the spillway system free from obstructions and in good operating condition. Please include periodic inspections of the dam and inform this office of any significant changes or problems that may affect the safety of the dam.

Any alteration or major repairs of the dam require a permit from this agency and must be made under the direction of a qualified engineer.

Provisions in the South Carolina Dams and Reservoirs Safety Act require the owner to notify the Department within 30 days after transferring title or control of the dam. Notification forms (D-2605) are available from this office on request.

Please note that as of July 25, 1997, it is the responsibility of the dam owner to notify any downstream property owners in the event of a failure or near-failure of the dam. A copy of the Emergency Notification and Action Plan is attached. **Please complete this form and submit a copy to our office no later than December 19, 2014.** The emergency contact for your area is Chesterfield County Office of Emergency Services. The CCOES can be contacted by dialing 911 in an emergency or 843-623-3362 during normal business hours.

Please call if you require further assistance or have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Kevin Kim". The signature is fluid and cursive, with the first name "Kevin" and last name "Kim" clearly distinguishable.

Kevin Kim
Regional Engineer Associate
SCDHEC
PEE DEE EQC Region – Florence/Sumter
843-661-4825

Attachments

cc: John Poole, SCDHEC Bureau of Water, Dams and Reservoirs Safety Program



Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: D 3227 & Hazard Class 1 B. Name of Dam: Kirkleys Pond Dam
C. Inspection Date (12/03/2014) & Time: D. Date of Last Inspection: (12/11/2012)
E. Location-County/City: Chesterfield / McBee F. EQC Regional Office: Florence
G. Inspector's Name: Kevin Kim
H. Owner's Name: Judy Tiller
I. Contact Person (if different from above):
J. Dam Owner's or Contact Person's Phone Numbers: Home (843) 335 - 8575
Office () -
Other () -
K. Dam Owner's or Contact Person's mailing address:
Address 1 PO Box 155
Address 2 (optional)
City McBee, State SC Zip Code 29101 -

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

- a) Satisfactory [] b) Fair [x] c) Poor [] d) Unsatisfactory [] e) Not Rated []

Section III (Dam Inspection Checklist)

A. Dam Crest

- i. Vegetation (grass, trees weeds)? Well-kept except some areas not covered by grass but soil.
ii. Animal activity observed? None noted.
iii. Any obvious alteration or repairs made? None noted.
iv. Erosion noticed on crest? None noted.
v. Any visible settlement, misalignment or cracks? None noted.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

- i. Vegetation (grass, trees weeds)? Brush and small trees need to be removed.
- ii. Animal activity observed? Unable to inspect due to heavy vegetation.
- iii. Any obvious alterations or repairs made? Same as above.
- iv. Erosion observed on upstream slope? Same as above.
- v. Settlement or cracks visible in slope? Same as above.

C. Down Stream Slope

- i. Vegetation (grass, trees weeds)? Upper right side is heavily vegetated with brush.
- ii. Animal activity observed? None noted.
- iii. Any obvious alterations or repairs made? None noted.
- iv. Erosion observed on down stream slope? Minor erosion on the upper right side.
- v. Settlement or cracks visible in slope? None noted.
- vi. Toe drains flowing? Not observed.
- vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: None noted.

D. Primary Spillway

- i. Any visible deterioration of structure? None noted.
- ii. Is there an obvious need to repair or replace trash rack? Not installed.
- iii. Any noticeable problems with debris? None noted.
- iv. Is valve or gate present? No.

E. Outlet Pipe

- i. Any water visibly flowing or leaking outside of the discharge pipe? None noted.
- ii. Describe any deflection or damage observed to the pipe: Minor corrosion
- iii. Visible condition of outlet channel: Good.

F. Auxiliary (Emergency) Spillway

- i. Noticeable obstructions to flow? Waterway is somewhat unclear.
- ii. Animal activity observed? None noted.
- iii. Any noticeable deterioration in the approach or discharge channel? None noted.
- iv. Any visible deterioration of structure's crest? None noted.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? N/A

vi. If applicable, any visible leakage below concrete spillway? N/A

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? None

None

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? Owner was not present. Still needs to be submitted.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated?

iii. Does EAP contain specific actions to take if the dam has failed or is near failure?

Section IV (Conclusions)

General comments and recommendations:

This dam accessed to be in generally good condition.

The upper right side of the downstream slope is heavily vegetated with brush, which make it difficult for an inspector to conduct the precise inspection. Brushes need to be removed.

Brushes at the toe of the dam near manhole need to be cleared. Easy access to the outlet pipe needs to be made.

Brushes heavily growing on the upstream slope, which make an inspector unable to locate problems such as seeps, erosions, and animal borrows. Need to be removed.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and
Impoundment Structures Regulations – DHEC 2604
R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

- A) Dam Number; Enter the Dam's inventory number.
- B) Name of Dam; Enter the common name of dam found within EFIS.
- C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
- D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
- E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
- F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
- G) Inspector's Name: Enter the name of the person performing the inspection.
- H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
- I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
- J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
- K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

- a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations for dams or tolerable risk guidelines.

- b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
- c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
- d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
- e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector through the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.



Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: D 3234 & Hazard Class 1 B. Name of Dam: Lake Susan
C. Inspection Date (11/10/2014) & Time: 11:00 D. Date of Last Inspection: (01/20/2012)
E. Location-County/City: Chesterfield / Society Hill F. EQC Regional Office: Florence
G. Inspector's Name: Kevin Kim
H. Owner's Name: Bobby Norris
I. Contact Person (if different from above):
J. Dam Owner's or Contact Person's Phone Numbers: Home (843) 544 - 0072
Office () -
Other () -
K. Dam Owner's or Contact Person's mailing address:
Address 1 PO Box 310
Address 2 (optional)
City Society Hill, State SC Zip Code 29593 -

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

- a) Satisfactory [] b) Fair [x] c) Poor [] d) Unsatisfactory [] e) Not Rated []

Section III (Dam Inspection Checklist)

A. Dam Crest

- i. Vegetation (grass, trees weeds)? Well-kept and under control.
ii. Animal activity observed? None noted.
iii. Any obvious alteration or repairs made? None noted.
iv. Erosion noticed on crest? None noted
v. Any visible settlement, misalignment or cracks? None noted.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

- i. Vegetation (grass, trees weeds)? Well-kept.
- ii. Animal activity observed? None noted.
- iii. Any obvious alterations or repairs made? None noted.
- iv. Erosion observed on upstream slope? None noted.
- v. Settlement or cracks visible in slope? None noted.

C. Down Stream Slope

- i. Vegetation (grass, trees weeds)? Heavily vegetated with brush and trees.
- ii. Animal activity observed? None noted due to heavy vegetation.
- iii. Any obvious alterations or repairs made? None noted.
- iv. Erosion observed on down stream slope? None noted due to vegetation.
- v. Settlement or cracks visible in slope? None noted due to vegetation.
- vi. Toe drains flowing? N/A
- vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: None noted due to vegetation.

D. Primary Spillway

- i. Any visible deterioration of structure? None noted.
- ii. Is there an obvious need to repair or replace trash rack? Not installed.
- iii. Any noticeable problems with debris? Accumulation of woody debris and fallen leaves near opening of intake structure.
- iv. Is valve or gate present? No.

E. Outlet Pipe

- i. Any water visibly flowing or leaking outside of the discharge pipe? None noted.
- ii. Describe any deflection or damage observed to the pipe: Minor metal corrosion in the pipe closer to the boat.
- iii. Visible condition of outlet channel: A few abandoned pipes, which inhibit water flow, were found in the channel.

F. Auxiliary (Emergency) Spillway

- i. Noticeable obstructions to flow? Accumulation of fallen leaves and woody debris.
- ii. Animal activity observed? None noted.
- iii. Any noticeable deterioration in the approach or discharge channel? None noted.
- iv. Any visible deterioration of structure's crest? None noted.

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? N/A

vi. If applicable, any visible leakage below concrete spillway? N/A

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? None

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? To be submitted.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated? _____

iii. Does EAP contain specific actions to take if the dam has failed or is near failure? _____

Section IV (Conclusions)

General comments and recommendations:

Remove brush and trees on the downstream slope of the dam especially those around the discharge pipe so that an inspector could have an access to the discharge pipe.

In the outlet channel, there were abandoned pipes that inhibit the downstream flow.

Fallen leaves and woody debris inhibit flow into the orifice of a pipe. Please monitor on a regular basis.

A trash rack needs to be installed to prevent the pipe from having a blockage.

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

Preliminary Inspection Report for South Carolina Regulated Dams and
Impoundment Structures Regulations – DHEC 2604
R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

- A) Dam Number; Enter the Dam's inventory number.
- B) Name of Dam; Enter the common name of dam found within EFIS.
- C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
- D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
- E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
- F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
- G) Inspector's Name: Enter the name of the person performing the inspection.
- H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
- I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
- J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
- K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

- a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations for dams or tolerable risk guidelines.

- b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
- c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
- d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
- e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector through the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

November 24, 2014

Mr. Bobby Norris
PO Box 310
Society Hill, SC 29593

RE: D-3234 “Lake Susan Dam” PERIODIC RE-INSPECTION FOLLOWUP

Dear Mr. Norris:

The Department has the responsibility and authority to routinely inspect State regulated dams. On November 10, 2014, Pee Dee EQC Florence personnel conducted routine inspection of the Lake Susan Dam. This inspection was to determine that the above-mentioned dam is in compliance with the Dams, Reservoirs Safety Act Regulations (R.72-105 through R.72-145)

The following are areas of concern that were noted during the inspection:

- 1) Trees located on the downstream slope of the dam will need to be evaluated by a trained professional on an individual basis, since their roots can cause “piping” of impounded water, and a falling tree can remove substantial amounts of soil, weakening the dam and possibly causing failure. Simply cutting down the trees is unacceptable as a rotting stump can leave voids, which create animal habitat and pathways for water. Some trees may require removal, and, depending on the location of the removed trees, may require a permit from the Bureau of Water.
- 2) Brush and weedy vegetation on the downstream slope of the dam make it difficult to monitor the area for seeps, erosion, and other signs of deterioration of the structure. Clearing the downstream face of low-growing vegetation especially those around the discharge pipe will allow inspectors to better monitor the structure.
- 3) Accumulation of woody debris and fallen leaves on top of and around the riser structure inhibits flow. Debris should be removed from the structure.
- 4) At the end of the outlet pipe where it discharges water, several abandoned pipes were found. This situation inhibits flow and must be resolved.

We suggest that a routine maintenance program be established for the dam. This should include removing the brush and small trees, repairing any areas of erosion, maintaining a good cover of grass on the slopes, and keeping the spillway system free from obstructions and in good operating condition. Please include periodic inspections of the dam and inform this office of any significant changes or problems that may affect the safety of the dam.

Any alteration or major repairs of the dam require a permit from this agency and must be made under the direction of a qualified engineer.

Provisions in the South Carolina Dams and Reservoirs Safety Act require the owner to notify the Department within 30 days after transferring title or control of the dam. Notification forms (D-2605) are available from this office on request.

Please note that as of July 25, 1997, it is the responsibility of the dam owner to notify any downstream property owners in the event of a failure or near-failure of the dam. A copy of the Emergency Notification and Action Plan is attached. **Please complete this form and submit a copy to our office no later than December 19, 2014 if you have not already done so.** The emergency contact for your area is Chesterfield County Emergency Management Agency. The CCEM office can be contacted by dialing 911 in an emergency or 843-623-3362 during normal business hours.

Please call if you require further assistance or have any questions.

Sincerely,



Kevin Kim
Regional Engineer Associate
SCDHEC
PEE DEE EQC Region – Florence/Sumter
843-661-4825

Attachments

cc: John Poole, SCDHEC Bureau of Water, Dams and Reservoirs Safety Program



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

February 20, 2015

Pamela McDowell
1270 Thompson Road
Bennettsville, SC 29512

RE: D-3459 “Driggers Pond Dam” PERIODIC RE-INSPECTION FOLLOWUP

Dear Ms. McDowell:

The Department has the responsibility and authority to routinely inspect State regulated dams. On November 10, 2014, Pee Dee Environmental Quality Control Florence personnel conducted routine inspection of the Driggers Pond Dam. This inspection was to determine that the above-mentioned dam is in compliance with the Dams, Reservoirs Safety Act Regulations (R.72-105 through R.72-145)

The following are areas of concern that were noted during the inspection:

- 1) Some large trees located on the downstream slope of the dam will need to be evaluated by a trained professional, since their roots can cause “piping” of impounded water, and a falling tree can remove substantial amounts of soil, weakening the dam and possibly causing failure. Simply cutting down the trees is unacceptable, as a rotting stump can leave voids, which create animal habitat and pathways for water. Some trees may require removal, and, depending on the location of the removed trees, may require a permit from the Bureau of Water.
- 2) Brush and weedy vegetation on the upstream slope of the dam make it difficult to monitor the area for seeps, erosion, and other signs of deterioration of the structure. Clearing the downstream and upstream face of low-growing vegetation will allow inspectors to better monitor the structure.
- 3) Outlet channel must be kept clear of trees, brush and other obstructions that inhibit the flow of water into the river.

We suggest that a routine maintenance program be established for the dam. This should include removing the brush and small trees, repairing any areas of erosion, maintaining a good cover of grass on the slopes, and keeping the spillway system free from obstructions and in good operating condition. Please include periodic inspections of the dam and inform this office of any significant changes or problems that may affect the safety of the dam.

Any alteration or major repairs of the dam require a permit from this agency and must be made under the direction of a qualified engineer.

Provisions in the South Carolina Dams and Reservoirs Safety Act require the owner to notify the Department within 30 days after transferring title or control of the dam. Notification forms (D-2605) are available from this office on request.

Please note that as of July 25, 1997, it is the responsibility of the dam owner to notify any downstream property owners in the event of a failure or near-failure of the dam. A copy of the Emergency

Notification and Action Plan is attached. **Please complete this form and submit a copy to our office no later than March 20, 2014 if you haven't done so.** The emergency contact for your area is Marlboro County Emergency Preparedness Agency. The MCEP office can be contacted by dialing 911 in an emergency or 843-479-5642 during normal business hours.

Please call if you require further assistance or have any questions.

Sincerely,



Kevin Kim
Regional Engineer Associate
SCDHEC
PEE DEE EQC Region – Florence/Sumter
843-661-4825

Attachments

cc: John Poole, SCDHEC Bureau of Water, Dams and Reservoirs Safety Program



Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: D 3459 & Hazard Class 1 B. Name of Dam: Driggers Pond
C. Inspection Date (11/10/2014) & Time: 13:30 D. Date of Last Inspection: (08/02/2012)
E. Location-County/City: Marlboro / Blenheim F. EQC Regional Office: Florence
G. Inspector's Name: Kevin Kim
H. Owner's Name: Pamela McDowell
I. Contact Person (if different from above):
J. Dam Owner's or Contact Person's Phone Numbers: Home (843) 528-0406 Office () - Other () -
K. Dam Owner's or Contact Person's mailing address: Address 1 1270 Thompson Rd Address 2 (optional) City Bennettsville, State SC Zip Code 29512 -

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

- a) Satisfactory [] b) Fair [x] c) Poor [] d) Unsatisfactory [] e) Not Rated []

Section III (Dam Inspection Checklist)

A. Dam Crest

- i. Vegetation (grass, trees weeds)? Covered with low-lying grass
ii. Animal activity observed? None noted
iii. Any obvious alteration or repairs made? None noted
iv. Erosion noticed on crest? None noted
v. Any visible settlement, misalignment or cracks? None noted

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

- i. Vegetation (grass, trees weeds)? Bushes and small tress were noted.
- ii. Animal activity observed? None noted
- iii. Any obvious alterations or repairs made? None noted
- iv. Erosion observed on upstream slope? Minor erosion was noted at several places
- v. Settlement or cracks visible in slope? None noted

C. Down Stream Slope

- i. Vegetation (grass, trees weeds)? Small and large trees were noted
- ii. Animal activity observed? Unable to locate due to heavy vegetation
- iii. Any obvious alterations or repairs made? None noted
- iv. Erosion observed on down stream slope? Unable to locate due to heavy vegetation
- v. Settlement or cracks visible in slope? Unable to locate due to heavy vegetation
- vi. Toe drains flowing? N/A
- vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Unable to locate due to heavy vegetation

D. Primary Spillway

- i. Any visible deterioration of structure? None noted
- ii. Is there an obvious need to repair or replace trash rack? N/A
- iii. Any noticeable problems with debris? None noted
- iv. Is valve or gate present? No

E. Outlet Pipe

- i. Any water visibly flowing or leaking outside of the discharge pipe? None noted
- ii. Describe any deflection or damage observed to the pipe: None noted
- iii. Visible condition of outlet channel: Must be kept clear of trees, bushes and any obstructions that inhibit the flow of water.

F. Auxiliary (Emergency) Spillway

- i. Noticeable obstructions to flow? Couldn't find the emergency spillway
- ii. Animal activity observed? _____
- iii. Any noticeable deterioration in the approach or discharge channel? _____
- iv. Any visible deterioration of structure's crest? _____

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? _____

vi. If applicable, any visible leakage below concrete spillway? _____

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? No

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? To be submitted.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated? _____

iii. Does EAP contain specific actions to take if the dam has failed or is near failure? _____

Section IV (Conclusions)

General comments and recommendations:

The general condition of the dam is fair. The main concern during this inspection was heavy vegetations on the downstream /upstream of the dam because extensive root systems of some trees can provide seepage paths for water. Trees that blow blow down or fall over can leave large holes in the embankment.

Also, slope protection may be needed to protect the upstream slope against erosion. Erosion can lead to cracking and sloughing, which can extend into the crest. Muskrats and groundhogs can also damage the slope. The upstream face of a dam is commonly protected against wave erosion by placement of a layer of rip-rap

Preliminary Dam Inspection Disclaimer:

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Preliminary Inspection Report for South Carolina Regulated Dams and
Impoundment Structures Regulations – DHEC 2604
R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

- A) Dam Number; Enter the Dam's inventory number.
- B) Name of Dam; Enter the common name of dam found within EFIS.
- C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
- D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
- E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
- F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
- G) Inspector's Name: Enter the name of the person performing the inspection.
- H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
- I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
- J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
- K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

- a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations for dams or tolerable risk guidelines.

- b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
- c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
- d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
- e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector through the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.



Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: D 4080 & Hazard Class 1 B. Name of Dam: Lazar Dam
C. Inspection Date (12/03/2014) & Time: 13:00 D. Date of Last Inspection: (02/08/2012)
E. Location-County/City: Florence / Florence F. EQC Regional Office: Florence
G. Inspector's Name: Kevin Kim
H. Owner's Name: Lazar Place Homeowners Association
I. Contact Person (if different from above): Woody Swink (President of HOA)
J. Dam Owner's or Contact Person's Phone Numbers: Home () - Office () - Other () -
K. Dam Owner's or Contact Person's mailing address: Address 1 1326 Hillside Ave. Address 2 (optional) City Florence, State SC Zip Code 29501 -

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

- a) Satisfactory [] b) Fair [x] c) Poor [] d) Unsatisfactory [] e) Not Rated []

Section III (Dam Inspection Checklist)

A. Dam Crest

- i. Vegetation (grass, trees weeds)? None noted.
ii. Animal activity observed? None noted.
iii. Any obvious alteration or repairs made? None noted.
iv. Erosion noticed on crest? None noted.
v. Any visible settlement, misalignment or cracks? None noted.

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

- i. Vegetation (grass, trees weeds)? None noted.
- ii. Animal activity observed? None noted.
- iii. Any obvious alterations or repairs made? None noted.
- iv. Erosion observed on upstream slope? None noted.
- v. Settlement or cracks visible in slope? None noted.

C. Down Stream Slope

- i. Vegetation (grass, trees weeds)? Brush and trees make it difficult to inspect the downstream slope of the dam.
- ii. Animal activity observed? Unable to inspect due to heavy vegetation.
- iii. Any obvious alterations or repairs made? Unable to inspect due to heavy vegetation.
- iv. Erosion observed on down stream slope? Unable to inspect due to heavy vegetation.
- v. Settlement or cracks visible in slope? Unable to inspect due to heavy vegetation.
- vi. Toe drains flowing? Unable to determine the existence of the structure due to heavy vegetation.
- vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Unable to inspect due to heavy vegetation.

D. Primary Spillway

- i. Any visible deterioration of structure? None noted.
- ii. Is there an obvious need to repair or replace trash rack? Corrosion on the outer trash rack where it touches water.
- iii. Any noticeable problems with debris? Accumulation of leaves and woody debris on the trash rack. Continue to monitor for blockage.
- iv. Is valve or gate present? No

E. Outlet Pipe

- i. Any water visibly flowing or leaking outside of the discharge pipe? Unable to locate the pipe due to heavy vegetation on the downstream slope.
- ii. Describe any deflection or damage observed to the pipe: Same as above
- iii. Visible condition of outlet channel: Same as above

F. Auxiliary (Emergency) Spillway

- i. Noticeable obstructions to flow? N/A
- ii. Animal activity observed? N/A
- iii. Any noticeable deterioration in the approach or discharge channel? N/A
- iv. Any visible deterioration of structure's crest? N/A

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? N/A

vi. If applicable, any visible leakage below concrete spillway? N/A

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? None

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? To be submitted.

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated? _____

iii. Does EAP contain specific actions to take if the dam has failed or is near failure? _____

Section IV (Conclusions)

General comments and recommendations:

The dam is in generally good condition.

Brush and trees are heavily growing on the downstream slope of the dam, which make it difficult for inspectors to locate the outlet pipe and to find any problems such as seepage, animal burrows and slope erosion. Brush and trees need to be removed.

Accumulation of fallen leaves and woody debris around the primary spillway. Trash rack with the smaller (fine) size of holes could catch more debris that might go into the pipe and cause blockage.

Preliminary Dam Inspection Disclaimer:

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Preliminary Inspection Report for South Carolina Regulated Dams and
Impoundment Structures Regulations – DHEC 2604
R.72-1 through R.72-9

INSTRUCTIONS

Purpose: To satisfy the inspection requirements for high and significant hazard dams regulated by South Carolina Department of Health and Environmental Control. See R.72-1 through R. 72-9.

Who will complete the form: Regional engineers and inspectors engaged in the dams and reservoir safety program performing dam inspections.

Section I (Owner's Information):

- A) Dam Number; Enter the Dam's inventory number.
- B) Name of Dam; Enter the common name of dam found within EFIS.
- C) Inspection Month & Time; Enter the day, month, year, and time in which the inspections was performed.
- D) Date of Last Inspection; Enter the day, month, and year, in which the last inspection was performed.
- E) Location-County/City; Enter the county and city, if applicable, where the dam is located.
- F) EQC Regional Office; Enter the DHEC EQC Regional office that covers the area in which the dam is located.
- G) Inspector's Name: Enter the name of the person performing the inspection.
- H) Owner's Name: Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
- I) Contact Person; Enter the name of the person that represents the dam owner during the inspection. This person should be authorized to remedy any deficiencies found by the inspector.
- J) Dam Owner's or Contact Person's Phone Numbers; Enter the home, office, and other available numbers for the Dam owner or Contact person.
- K) Dam Owner's or Contact Person's mailing address; Enter the dam owner's or contact person's mailing address including city state and zip code.

Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

- a) SATISFACTORY- No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations for dams or tolerable risk guidelines.

- b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
- c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
- d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
- e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector through the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dams has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

Office Mechanisms and filing: The form must be sent to the Dam's owner(s) and filed with the Bureau of Water, Dams and Reservoir Safety Program, before the end of the following month after which the inspections were performed. The report will be filed in the Bureau of Water's file room and will be retained for at least three years after the Department certifies the removal of the inspected dam.



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

December 4, 2014

Mr. Woody Swink
c/o Lazar Place HOA
1326 Hillside Ave
Florence, SC 29501

RE: D-4080 "Lazar Dam" PERIODIC RE-INSPECTION FOLLOWUP

Mr. Swink:

The Department has the responsibility and authority to routinely inspect State regulated dams. On December 3, 2014, Pee Dee EQC Florence personnel conducted routine inspection of the Lazar Dam. This inspection was to determine that the above-mentioned dam is in compliance with the Dams, Reservoirs Safety Act Regulations (R.72-105 through R.72-145)

The dam assessed to be in generally good condition.

The following are areas of concern that were noted during the inspection:

- 1) Brush and weedy vegetation on the downstream slope of the dam make it difficult to monitor the area for seeps, erosion, and other signs of deterioration of the structure. Clearing the downstream face of vegetation will allow inspectors to better monitor the structure.
- 2) Accumulation of fallen leaves and woody debris on the trash rack/spillway inhibits flow. Debris should be removed from the trash rack.

We suggest that a routine maintenance program be established for the dam. This should include removing the brush and small trees, repairing any areas of erosion, maintaining a good cover of grass on the slopes, and keeping the spillway system free from obstructions and in good operating condition. Please include periodic inspections of the dam and inform this office of any significant changes or problems that may affect the safety of the dam.

Any alteration or major repairs of the dam require a permit from this agency and must be made under the direction of a qualified engineer.

Provisions in the South Carolina Dams and Reservoirs Safety Act require the owner to notify the Department within 30 days after transferring title or control of the dam. Notification forms (D-2605) are available from this office on request.

Please note that as of July 25, 1997, it is the responsibility of the dam owner to notify any downstream property owners in the event of a failure or near-failure of the dam. A copy of the Emergency Notification and Action Plan is attached. **Please complete this form and submit a copy to our office no later than December 19, 2014.** The emergency contact for your area is Florence County Emergency Management Service. The FCEM office can be contacted by dialing 911 in an emergency or 843-669-3911 during normal business hours.

Please call if you require further assistance or have any questions.

Sincerely,



Kevin Kim
Regional Engineer Associate
SCDHEC
PEE DEE EQC Region – Florence/Sumter
843-661-4825

Attachments

cc: John Poole, SCDHEC Bureau of Water, Dams and Reservoirs Safety Program



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

July 18, 2013

Wellie L. Gilbert, Sr. Environmental Specialist
Robinson Plant
3512 Lakeside Drive
Hartsville, SC 29550

Subject: Routine Preliminary Inspection of LAKE ROBINSON DAM, D 0010, Class C1,
High Hazard Dam, Darlington County

Dear Sir:

On June 3, 2013, I conducted a routine inspection of the dam referenced above. Your cooperation during the inspection was greatly appreciated. I am enclosing a copy of my inspection report and a transfer of ownership form. For your convenience, this form can be used to notify the Department if you sell or transfer title of your dam. Additionally, I am enclosing a copy of the Department's Surveillance, Emergency Notification, and Action Plan for South Carolina Regulated Dams. This document, form *DHEC 2606 (11/2012)*, should be completed and a copy of the completed form must be returned to DHEC within **90 days**. If you have any questions or comments regarding this requirement, please don't hesitate to contact me.

In general the dam appears to be in good shape and well maintained. The official condition assessment rating is "fair". Fair condition ratings are assigned to dams that have no existing dam safety deficiencies recognized for normal loading conditions. However, rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. The following issues were observed on the dam and should be closely monitored and corrected:

1. A small amount of seepage was found along the right embankment. Please continue to monitor this seepage. Keep in mind that any increase in seepage flow, change in color, or sediment deposits forming below the seepage are indicators of a larger problem. If any of these signs are observed, please take appropriate actions.
2. A few areas of subsidence were noted along the upstream face of the dam. Please keep an eye on these areas mainly located within the portion of the dam protected by riprap armoring. Additional action may be necessary if these areas change in size or depth.
3. A few small ruts and depressions "mud puddles" have formed on the crest of the dam. Water pooling on the crest of a dam is undesirable because of the resulting hydrostatic pressure that builds within the embankment. The additional pressure exerted in the dam's embankment by the intrusion of surface water can create an unstable situation. These depressions and ruts should be corrected before the next inspection. Please be sure not to change the crest elevation as designed when correcting this issue and the final grade should convey flow back into the reservoir, not across the downstream embankment.
4. Overall, the dam was free of harmful plants and very little animal activity was observed. Please be sure the small trees, which were recently sprayed, are removed before the next inspection. In general, trees less than 4 inches can be removed without obtaining a repair permit. Please keep this in mind if you begin removing the deleterious vegetation from the left abutment area on the far side of the barricades. For more information, please consult FEMA publication 534. You can download a copy of this publication from the following website: <http://www.damsafety.org>

Your dam is classified as a high hazard potential dam, which means that it is located where failure will likely cause loss of life or serious damage to homes(s), industrial and commercial facilities, important public utilities, main highway(s) or railroads. The Department routinely inspects dams with this hazard classification once every two years. DHEC staff will contact you in advance before scheduling the next inspection of this dam.

If you have further questions or comments, please feel free to contact me by phone at (803) 898-4212 or email pooleja@dhec.sc.gov (preferred).

Sincerely,



John A. Poole, PE, State Dam Safety Engineer
Bureau of Water- SC Department of Health and Environmental Control

Enclosures: Completed DHEC 2604 (11/2011)
DHEC 2605 (10/2012)
DHEC 2606 (11/2012)

cc: Kari Terry - SC DHEC, Florence EQC Office



Preliminary Inspection Report for South Carolina Regulated Dams and Impoundment Structures Regulations R.72-1 through R.72-9

Section I (Owner's Information)

A. Dam Number: D 0010 & Hazard Class
B. Name of Dam: Lake Robinson Dam
C. Inspection Date (06/03/2013) & Time: 11:00 AM
D. Date of Last Inspection: (12/11/2012)
E. Location-County/City: Darlington / Hartsville
F. EQC Regional Office: Florence
G. Inspector's Name: John Anthony Poole
H. Owner's Name: CAROLINA POWER & LIGHT CO - Robinson Plant
I. Contact Person (if different from above): Wellie L. Gilbert
J. Dam Owner's or Contact Person's Phone Numbers: Home, Office (843) 858 - 4404, Other (843) 854 - 1371
K. Dam Owner's or Contact Person's mailing address: Address 1 3512 Lakeside Dr., Address 2 (optional), City Hartsville, State SC, Zip Code 29550

Section II (Dam Condition)

General Condition Assessment (Select one of the following):

- a) Satisfactory [] b) Fair [x] c) Poor [] d) Unsatisfactory [] e) Not Rated []

Section III (Dam Inspection Checklist)

A. Dam Crest

- i. Vegetation (grass, trees weeds)? Grass cover on most of crest. Some bare areas that need grassing
ii. Animal activity observed? none
iii. Any obvious alteration or repairs made? none
iv. Erosion noticed on crest? none
v. Any visible settlement, misalignment or cracks? Some small ruts and puddles forming from repeated traffic

Section III (Dam Inspection Checklist) continued

B. Upstream Slope

- i. Vegetation (grass, trees weeds)? Armored mostly with rip rap
- ii. Animal activity observed? none
- iii. Any obvious alterations or repairs made? none
- iv. Erosion observed on upstream slope? none
- v. Settlement or cracks visible in slope? Some areas that had subsidence within the rip rap armor

C. Down Stream Slope

- i. Vegetation (grass, trees weeds)? Mostly grass with some small brush. Very small trees still standing were killed using herbicide.
- ii. Animal activity observed? none
- iii. Any obvious alterations or repairs made? none
- iv. Erosion observed on down stream slope? none
- v. Settlement or cracks visible in slope? none
- vi. Toe drains flowing? n/a
- vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: Yes, on right abutment slow to no rate and no color.

D. Primary Spillway

- i. Any visible deterioration of structure? Some cracks which have been monitored with crack gauges
- ii. Is there an obvious need to repair or replace trash rack? n/a
- iii. Any noticeable problems with debris? none
- iv. Is valve or gate present? Yes

E. Outlet Pipe

- i. Any water visibly flowing or leaking outside of the discharge pipe? n/a
- ii. Describe any deflection or damage observed to the pipe: n/a
- iii. Visible condition of outlet channel: good

F. Auxiliary (Emergency) Spillway

- i. Noticeable obstructions to flow? none
- ii. Animal activity observed? none
- iii. Any noticeable deterioration in the approach or discharge channel? none
- iv. Any visible deterioration of structure's crest? none

F. Auxiliary (Emergency) Spillway continued

v. If applicable, any observed exposure of rebar reinforcement? n/a

vi. If applicable, any visible leakage below concrete spillway? n/a

H. Downstream/Hazard Class Issues

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? _____

No, dam is still high hazard

I. Emergency Action Plan (EAP)

i. Emergency Action Plan provided by owner? Did not have our current form

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated? n/a

iii. Does EAP contain specific actions to take if the dam has failed or is near failure? n/a

Section IV (Conclusions)

General comments and recommendations:

Please see letter from John Poole (SC DHEC) to Wellie Gilbert (Robinson Plant) dated July 18th

Preliminary Dam Inspection Disclaimer:

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**Preliminary Inspection Report for South Carolina Regulated Dams and
Impoundment Structures Regulations – DHEC 2604
R.72-1 through R.72-9**

INSTRUCTIONS

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- G) Inspector's Name; Enter the name of the person performing the inspection.
- H) Owner's Name; Enter the name of the person owning the dam. If there is multiple owners list them and their contact information in the "General comments and recommendations are in section IV.
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Section II (Dam Condition):

Once the inspection is completed indicate the general condition of the dam. The assessment can be one of the following four categories:

- a) **SATISFACTORY-** No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations for dams or tolerable risk guidelines.

- b) FAIR- No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.
- c) POOR- A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.
- d) UNSATISFACTORY- A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.
- e) NOT RATED- This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

Section III (Dam Inspection Checklist):

This section is self-explanatory and guides the inspector through the inspection process. Follow the dam inspection checklist to complete the inspection. Mark any deficiencies observed during the inspection. If there were the deficiencies reported during the last inspection cycle check to see if they were corrected. If items are not applicable to the inspection of the dam, mark not applicable. If the dam has issues that are not covered in this section of the form make note of them in section IV.

Section IV(Conclusions):

Use the space to list additional responsible parties (dam owners) and issues found during the inspection that are not addressed in section III, as well as any general comments and recommendations generated during the inspection.

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