October
2018

COAL COMBUSTION RESIDUAL IMPOUNDMENT INSPECTION – WINYAH GENERATING STATION

Georgetown, South Carolina

Table of Contents

**Please note that the terms "embankment", "berm", "dike", and "dam" are used interchangeably within this report, as are the terms "pond", "basin", and "impoundment".*

Executive Summary

This assessment of the stability and functionality of the Winyah Generating Station (WGS) coal combustion residual (CCR) management units is based on a review of available documents and an on-site assessment conducted by Santee Cooper engineering staff on September 4th-5th and October 3rd, 2018. The supporting technical information was found to be generally adequate. The assessment team had several recommendations based on field observations that may help WGS to continue to maintain the management units in safe condition.

In summary, the WGS CCR management units are in generally satisfactory condition for continued safe and reliable operation. No recognized existing or potential management unit safety deficiencies were identified within the parameters of design and operation.

Summary of Recommendations

Ash Pond A

1. Wet areas on the downstream slope and toe should be monitored during weekly inspections. If conditions worsen, an engineered solution specific to the area should be followed when making the repair.
2. The erosion areas on the downstream slope should be repaired within 90 days.
3. Bare spots and areas with significant tractor rutting should be reseeded.
4. Operations and engineering personnel responsible for the removal of ash should have a discussion regarding its removal from areas near the upstream slope of the dike to ensure the stability of the crest road and dike.

Ash Pond B

1. Wet areas on the downstream slope and toe should be monitored during weekly inspections. If conditions worsen, an engineered solution specific to the area should be followed when making the repair.
2. The eroded area on downstream slope should be filled, regraded, seeded and monitored until stabilized within 90 days.
3. Bare spots and areas with significant tractor rutting should be reseeded.

South Ash Pond

1. Bare soil areas should be reseeded and continued to be monitored as part of routine maintenance.
2. Wet areas on the downstream slope and toe should be monitored during weekly inspections. If conditions worsen, an engineered solution specific to the area should be followed when making the repair.
3. It is recommended that the station install approximately 500 linear feet of new engineered toe drain system on the south end of the pond within the next year. Installing a new toe drain would improve seepage control, relieve pressure within the dike in this area, and address minor wet areas exterior to the pond. After installation, rutted and eroded areas should be repaired, resloped and monitored until stabilization.
4. Rocked areas located on the impoundment's northwest downslope corner with limited space for cutting equipment should be sprayed to limit vegetation growth.
5. Root growth around heavily vegetated headwalls should be removed and headwall discharge pipes and areas should be cleaned. Areas of scour near the discharge pipes should be repaired with rock.

Units 3 & 4 Slurry Pond

1. Bare soil areas should be reseeded and continued to be monitored as part of routine maintenance.
2. Wet areas on the downstream slope and toe should be monitored during weekly inspections. If conditions worsen, an engineered solution specific to the area should be followed when making the repair.

This report presents the opinion of the assessment team as to the potential for catastrophic failure and reports on the condition of the CCR units at Winyah Generating Station. The assessment of dam safety reported herein is based on field observations and review of readily available information provided to the inspection team of the subject coal combustion residual (CCR) management units. Qualified Santee Cooper engineering staff performed the field observations and review of pertinent information and made the assessment in conformance with the requirements of Section 257.83 of the Federal Register and in accordance with reasonable and generally accepted engineering practices.

Coal Combustion Residual Impoundment Inspection – Winyah Generating Station

1.0 General Information and Introduction

1.1 Introduction and Summary Conclusions

This assessment of the stability and functionality of the Winyah Generating Station (WGS) coal combustion residual (CCR) management units is based on a review of available documents and an on-site assessment conducted by Santee Cooper engineering staff on September 4th-5th and October 3rd, 2018. The supporting technical information was found to be generally adequate. As detailed in Section 5.2, there are several recommendations based on field observations that may help WGS continue maintaining the management units in safe condition.

In summary, the WGS CCR management units are generally satisfactory for continued safe and reliable operation. No recognized existing or potential management unit safety deficiencies were identified within the parameters of design and operation.

1.2 Purpose and Scope

The purpose of this report is to fulfill the requirements of Section 257.83(b) of the Federal Register regarding the safety and inspection of CCR surface impoundments. Section 257.83(b) states that "If the existing or new CCR surface impoundment or any lateral expansion of the CCR surface impoundment is subject to the periodic structural stability assessment requirements under Section 257.73(d) or 257.74(d), the CCR unit must additionally be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards."

The inspection must, at a minimum, include:

i. A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., CCR unit design and construction information required by Section 257.73(c)(1) and

257.74(c)(1), previous periodic structural stability assessments required under Section 257.73(d) and 257.74(d), the results of inspections by a qualified person, and results of previous annual inspections

ii. A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit and appurtenant structures

iii. A visual inspection of any hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit for structural integrity and continued safe and reliable operation

The inspection report must also be written by a qualified professional engineer and must address the following (required information on the CCR impoundments at WGS included in bold below the Federal Register excerpt):

i. Any changes in geometry of the impounding structure since the previous annual inspection
    - **No change noted in the geometry of the management units at WGS.**

ii. The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection
    - **Staff gauges are located in the ponded water at Ash Pond B, Units 3 & 4 Slurry Pond and the South Ash Pond. No formal dam safety instrumentation is found on the ponds.**

iii. The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection
    - **See Table 1.1 below for information on all WGS Ponds**

iv. The storage capacity of the impounding structure at the time of inspection
    - **See Table 1.1 below for information on all WGS Ponds**

v. The approximate volume of the impounding water and CCR at the time of inspection
    - **See Table 1.1 below for information on all WGS Ponds**

Table 1.1: Impoundment Capacity Information

	Ash Pond A[2]	Ash Pond B	South Ash Pond	Units 3 & 4 Slurry Pond
Surface Area (acre)[1]	88	63	61	100
Current CCR and Water Storage Volume (acre-feet)	1,641	884	1,062	8
Total Storage Capacity (acre-feet)[1]	1,641	1,040	1,129	2,850
Crest Elevation (feet)	41.5	41.5	37.0	38.0
Current Water Elevation (feet)	-	34.1	9.8	22.6
Maximum Water Elevation in 2018 (feet)	-	34.4	29.9	25.5
Minimum Water Elevation in 2018 (feet)	-	31.3	28.4	19.6
Approximate Current Depth (feet)	18	18	17	12
Maximum Depth (feet)	18	18	17	13.5
Minimum Depth (feet)	18	18	17	12

1 From Santee Cooper response to EPA's RFI dated March 9, 2009.
2 CCR is currently being excavated from Ash Pond A. Runoff is routed to Pond B and Pond A does not store water.
Note: Some storage capacity values differ from the Dewberry and Davis Report due to additional studies performed in anticipation of pond closures.

vi. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures

- **Some maintenance required on the ponds as discussed in Executive Summary and Sections 4.0 and 5.0; however, ponds are safe for continued operation**

vii. Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection."

- **No other changes noted that impact the stability or operation of the impounding structures**

2.0 Description of Coal Combustion Residual Management Units

2.1 Location and General Description

The Winyah Generating Station (WGS) is located on Penny Royal Road, Georgetown, South Carolina, near Penny Royal Creek.

WGS has four (4) CCR management impoundments: Ash Pond A, Ash Pond B, South Ash Pond, and the Units 3 & 4 Slurry Pond. The impoundments are divided into separate units by internal dikes. The West Ash Pond, closed in 2015, and the Unit 2 Slurry Pond, closed and converted to a landfill in 2017, were not part of this inspection. Table 2.1 below shows a summary of the size and general dimensions of the CCR management impoundments at WGS:

Table 2.1: Summary of Dam Dimensions and Size

	Ash Pond A	Ash Pond B	South Ash Pond	Units 3 & 4 Slurry Pond
Dam Height (ft)	24.5	31	22	30
Crest Width (ft)	12	12	15	15
Length (ft)	8854	6243	8663	5937
Design Side Slopes (upstream) H:V	2:1	2:1	3:1 & 4:1	2:1 & 3:1
Design Side Slopes (downstream) H:V	3:1	2:1	3:1 & 4:1	2:1 & 3:1

2.2 Amount and Type of CCRs Currently Stored in Units and Maximum Capacity

Ash Ponds A and B were constructed in 1975 and are used for fly ash, bottom ash, and boiler slag. In 1980, the South Pond was constructed and is used for fly ash, bottom ash, and boiler slag. Also that year, Units 3 & 4 Slurry Pond was constructed and used for flue

gas emission control residual. In 2015, the operation level for the Units 3 & 4 Slurry Pond was lowered for seismic mitigation. In late 2017, staff gauges identifying water surface elevation in the NAD 88 datum were installed in Ash Pond B, Units 3 & 4 Slurry Pond and South Ash Pond in order to monitor the water levels within these ponds. The amount of CCRs currently stored in the units and maximum capacities are summarized in Table 1.1.

2.3 Principal Project Structures

2.3.1 Earth Embankments

Ash Pond A and Ash Pond B are unlined. The top of Ash Pond A dam elevation from the original design plans is 41.5 feet; the original design top of dam elevation for Ash Pond B was 34.5 feet. The perimeter embankment along Ash Pond B was raised in 1997 by approximately 6.8 feet to match the top of dam elevation of Ash Pond A. No internal drainage blankets or toe drains for seepage control were included in the original design of the perimeter dams or in the design of the dam raise for Ash Pond B. The length of the embankment raised was 5,200 feet. The raised embankment outside toe encroached slightly into the adjacent Cooling Pond. In these areas the design called for the foundation of the embankment toe to be constructed of riprap to above the water level and placement of a filter on top of the riprap before constructing the soil embankment on top of it.

The South Ash Pond basin is unlined. A toe drain is used for seepage control and water is pumped back into the South Pond. Seepage water collected in the drain discharges through 4-inch diameter solid-wall PVC pipes extending from the internal drain to daylight at the toe; the design spacing of these seepage drainage pipes is 200 feet. The design drawings show that a 30-inch diameter CMP through a southwest section of the perimeter dike was used for drainage from the basin area during construction. This CMP was plugged with concrete at the upstream and downstream toes of the dam and left in-place at completion of construction in 1980. In 2008, a 60' long slurry wall was installed at the CMP location to a depth of 45' to provide an impermeable barrier within the dike and mitigate seepage in this area. Several discontinuous toe drain systems have been installed within the dike, located in

areas where the existing toe drain system was clogged, and minor seepage was found on the downstream slope.

The Units 3 & 4 Slurry Pond basin is unlined. No internal drainage blankets or formal toe drains for seepage control were used. The pond shares a common dike on its south side with the West Ash Pond. During construction of the pond, a 30-inch diameter temporary corrugated metal pipe (CMP) was used for drainage. This CMP was plugged with concrete at the upstream and downstream toes of the dam and left in-place at completion of construction. In 2008, a 225' long slurry wall was installed at the CMP location to a depth of 45' to provide an impermeable barrier within the dike and mitigate seepage in this area. Currently, CCR is being stockpiled on site, within the pond.

2.3.2 Outlet Structures

Ash Pond A has two abandoned outlet structures located near the southwest corner of the basin. One of these outlet structures discharged treated water toward the west direction through the perimeter dike to an outfall into the Discharge Canal to the Cooling Pond; it has been filled with controlled low strength material (CLSM). The other outlet structure discharged through the non-structural cross dike and into Ash Pond B. Since Pond A is full, this outlet structure was not plugged but abandoned in-place.

Ash Pond B's original outlet consisted of a rectangular reinforced concrete drawdown structure that discharged treated water into a reinforced concrete pipe (RCP) that extends through the bottom of the perimeter dike to the Discharge Canal to the Cooling Pond. In 2012, a new drawdown structure was installed as a replacement, approximately 370' south of the original outfall. A 100' long 24" HDPE outfall pipe was also installed. Water level in the pond is controlled by the top elevation of the new drawdown structure, where water overflows into the structure. The excavated section of the new outfall pipe which penetrated the existing dike was encased in 134 cubic yards of CLSM. The original outlet was abandoned and the RCP was filled entirely with CLSM once the new structure was installed.

The South Ash Pond outlet is located at the east end of the basin and consists of a rectangular reinforced concrete decant tower with bottom discharge into a 36-inch diameter lined RCP conduit that extends easterly through the bottom of the perimeter dike; the water ultimately outfalls into the Discharge Canal to the Cooling Pond. Stop logs are used to manage the water level in the pond.

The Units 3 & 4 Slurry Pond had a temporary drainage pipe (30-inch CMP) that was used for drainage during construction that was plugged with a slurry wall in 2008. In 2014, a floating pump station, with an adjustable weir, was installed over the deepest part of the pond pool. The pump station is anchored to four points with ¼" stainless steel wire rope. The station uses two submersible pumps and approximately 2,500 LF of 14" SDR 17 HDPE pipe that run along the top of the interior slope and then down the downstream slope to discharge to Pump Station No. 1. Seismic stability is maintained at water elevations less than 26 feet. The pump station was installed to drawdown water levels and sustain storage volume between 16 and 26 feet to allow for operational flexibility and additional storage capacity for rain events. Also, in 2015 two 36" HDPE pipes were installed through the divider dike between the West Ash Pond and the Units 3 & 4 Slurry Pond as a result of the West Ash Pond closure to ensure the West Ash Pond does not retain any liquids.

3.0 Summary of Relevant Reports and Incidents

3.1 Summary of Reports on the Safety of CCR Units

Furnished reports of weekly inspections, conducted by WGS personnel for the period September 2017 to September 2018, indicated no major structural or operational problems. In addition, previous annual inspection reports were reviewed by Civil Projects. Several minor, potential maintenance items were noted in the report and were carefully observed during the field inspection.

4.0 Field Observations

4.1 Project Overview and Significant Findings

Santee Cooper qualified engineer Michelle Tudor, P.E. and engineering technician Shiloah Burbage, performed a site visit to WGS on September 4-5th and October 3rd, 2018. Weather conditions during the visit were approximately 90 degrees Fahrenheit, sunny and dry on September 4, with some rain on September 5th, and approximately 85 degrees and sunny on October 3rd. The overall condition of the CCR impoundment dikes was satisfactory with no significant findings noted.

4.2 Ash Pond A

4.2.1 Crest

The crest of the Ash Pond A perimeter dike was generally found to be in satisfactory condition. No major erosion was observed. No major sags, depressions, or other signs of significant settlement were observed in the crest. No tension cracks were observed in the crest or along the edge of the crest.

4.2.2 Upstream/Inside Slope

The inside slope of the Ash Pond A embankment dam was observed to be generally filled with ash. Currently, ash is being removed from the pond and transported to SEFA for use in ash-recycling products. Some areas where ash is being removed, particularly the steep sections close to the outside dike and crest road, have significant erosion. The surface of the exposed ash fill is generally covered with weeds and low-growing bushes.

4.2.3 Downstream/Outside Slope and Toe

The downstream slope and toe of Ash Pond A was found to be in generally satisfactory condition. Three areas of significant erosion, with width and depth dimensions of 50'x8", 50'x8" and 10'x8" were noted. Some equipment rutting and bare spots, particularly in steep slope areas, were also observed. Additionally, some wet spots near and above the toe road were observed. Plant personnel were notified of the erosion areas and repair was scheduled at the time of inspection.

4.2.4 Abutments and Groin Areas

Not applicable; there are no abutments or groins in the perimeter ring-dam.

4.2.5 Outlet Works

Ash Pond A has two abandoned outlet structures located near the southwest corner of the basin. The conduits could not be observed. As mentioned, the conduit through the perimeter dike was properly abandoned and filled with flowable fill. The other conduit through the internal divider dike into Ash Pond B was abandoned in place and there was no visible evidence at the surface of any problems with the conduit.

4.2.6 Emergency Spillway

No emergency spillway was observed, although the design plans indicate that there was to be an emergency overflow on the perimeter dam on the west side of the basin. Santee Cooper has not found any evidence that the emergency spillway was constructed as part of original construction.

4.3 Ash Pond B

4.3.1 Crest

The crest of the Ash Pond B perimeter dike was generally found to be in satisfactory condition. No major sags, depressions, or other signs of significant settlement were observed in the crest. No tension cracks were observed in the crest or along the edge of the crest.

4.3.2 Upstream/Inside Slope

The upstream/inside slope of the Ash Pond B perimeter dike was observed to be generally covered with ash. No obvious signs of slumps, slides, bulges, tension cracks, seepage, or animal burrows were observed on the inside slope.

4.3.3 Downstream/Outside Slope and Toe

The downstream/outside slope and toe of Ash Pond B was found to be in generally satisfactory condition. Some areas of bare soil and sparse grass cover were observed. Some areas along the downstream slope were observed to have signs of erosion.

4.3.4 Abutments and Groin Areas

Not applicable; there are no abutments or groins in the perimeter ring-dam.

4.3.5 Outlet Works

The 24" HDPE outfall pipe was observed at its inlet during the inspection and appeared to be in good condition. A detailed inspection with a mobile submersible camera was performed in October 2017 and the outfall pipe appeared to be in good condition.

4.3.6 Emergency Spillway

No emergency spillway was observed, although the design plans indicate that there was to be an emergency overflow on the original perimeter dam on the west side of the basin. Santee Cooper has not found any evidence that the emergency spillway was constructed as part of original construction.

4.4 South Ash Pond

4.4.1 Crest

The crest was observed to be in overall good condition. No major sags, depressions, or other signs of significant settlement were observed in the crest. No tension cracks were observed in the crest or along the edge of the crest.

4.4.2 Upstream/Inside Slope

The inside slope of the South Ash Pond embankment dam was observed to be filled with ash in most of the basin. At the east end of the pond, the section of the slope above the water level appeared to be in generally good condition. No slumps, slides, or other signs of shear failure were observed in the visible parts of the slopes above the ash and water levels. No significant erosion was noted.

4.4.3 Downstream/Outside Slope and Toe

Wet areas were observed along the downstream slope in several locations on the South Ash Pond. An erosion area under the pipe bridge approximately 2' wide and 2' deep was observed, as well as several other areas of minor erosion, bare earth, and sparse vegetation. Some areas with bare earth were caused by maintenance equipment.

4.4.4 Abutments and Groin Areas

Not applicable; there are no abutments or groins in the perimeter ring-dam.

4.4.5 Outlet Works

The South Ash Pond outlet is located at the east end of the basin and consists of a rectangular reinforced concrete decant tower with bottom discharge into a 36-inch diameter lined RCP conduit that extends easterly through the bottom of the perimeter dike; the discharge ultimately outfalls into the Discharge Canal via a ditch. Water level in the pond is controlled by stop logs in the outlet. A diving inspection of the outfall pipe was conducted last year in October 2017 and appeared to be in good condition.

4.4.6 Emergency Spillway

There is no emergency spillway.

4.5 Units 3 & 4 Slurry Pond

4.5.1 Crest

The surface of the crest was observed to be in good condition. No major depressions, sags, cracks or other signs of settlement were observed. No tension cracks which might suggest soil shear failure were observed in the crest or along the edge of the crest.

4.5.2 Upstream/Inside Slope

No slumps, slides, or other signs of shear failure were observed in the visible parts of the slopes above the water level. No significant erosion was noted. A section of the pond is currently being used for stockpiling CCR.

4.5.3 Downstream/Outside Slope and Toe

Wet areas were observed along the northwest downsteam slope of the Pond but do not appear to affect the integrity of the dike. Areas of minor erosion, bare earth and sparse vegetation were observed, with some of areas caused by maintenance equipment. Several other areas of the downsteam slope had thick vegetation.

4.5.4 Abutments and Groin Areas

Not applicable; there are no abutments or groins in the perimeter ring-dam.

4.5.5 Outlet Works

The floating pump station was observed; however, its condition could not be determined due to its distance from the dike.

4.5.6 Emergency Spillway

There is no longer a spillway associated with this pond.

4.6 Adequacy of Maintenance, Operating, and Surveillance Procedures

4.6.1 Adequacy of Maintenance Procedures

Overall, maintenance of the impounding embankments and outlet works of all ponds appears to be adequate. No major maintenance issues were noted during the field inspection or in the weekly inspection reports completed by WGS personnel and

reviewed by the inspection team. No changes to maintenance procedures are recommended at this time.

4.6.2 Adequacy of Operating Procedures

Based on field observations and discussions with WGS personnel, the operating procedures for the ponds appear to be adequate.

4.6.3 Adequacy of Surveillance Procedures

WGS personnel complete daily informal inspections and weekly formal inspections on the ash ponds in accordance with good engineering practice and Section 257.83 of the Federal Register. These inspections are being properly documented and should continue as they are currently being conducted.

5.0 Conclusions and Recommendations

5.1 Conclusions

Conclusions are based on visual observations from a three day site visit and review of technical and historical documentation provided to the inspection team.

5.1.1 Conclusions Regarding the Structural Soundness of the Management Unit(s)

Santee Cooper engaged a third party consultant (ARCADIS) to review the existing information for the impoundment dikes and submitted a report to the USEPA on 29 March 2012. The ARCADIS report recommended that a seismic stability and liquefaction evaluation be performed for the Units 3 & 4 Slurry Pond perimeter dikes. Santee Cooper retained Geosyntec Consultants to perform subsurface investigation and seismic and liquefaction evaluations of the perimeter dikes associated with the Units 3 & 4 Slurry Pond and the West Ash Pond. The investigation and evaluation results were summarized in a Seismic Investigation Report prepared by Geosyntec in July 2013 and submitted to USEPA and the South Carolina Department of Health and Environmental Control (DHEC) on July 26th, 2013.

Conclusions of this report suggest drawdown of the Units 3 &4 Slurry Pond and West Ash Pond as mitigation measures for increasing seismic stability. Since this report, the Units 3 & 4 Slurry Pond's operating level has been lowered and the West Ash Pond has been closed.

5.1.2 Conclusions Regarding Field Observations

The inspection team was provided access to all areas in the vicinity of the ash ponds as required, to conduct a thorough field inspection. The embankment dikes and outlet structures were observed to have no signs of significant settlement, shear failure, or other signs of instability. There are no apparent indications of unsafe conditions or conditions needing emergency remedial action. Suggested maintenance can be found in Sections 5.2.

5.2 Recommendations

The following recommendations refer to issues observed during the field inspection that are summarized in Section 4.0 of this report.

5.2.1 Ash Pond A

Maintenance and monitoring recommendations:

1. Wet areas on the downstream slope and toe should be monitored during weekly inspections. If conditions worsen, an engineered solution specific to the area should be followed when making the repair.
2. The erosion areas on the downstream slope should be repaired within 90 days.
3. Bare spots and areas with significant tractor rutting should be reseeded.
4. Operations and engineering personnel responsible for the removal of ash should have a discussion regarding its removal from areas near the upstream slope of the dike to ensure the stability of the crest road and dike.

5.2.2 Ash Pond B

Maintenance and monitoring recommendations:

1. Wet areas on the downstream slope and toe should be monitored during weekly inspections. If conditions worsen, an engineered solution specific to the area should be followed when making the repair.
2. The eroded area on downstream slope should be filled, regraded, seeded and monitored until stabilized within 90 days.
3. Bare spots and areas with significant tractor rutting should be reseeded.

5.2.3 South Ash Pond

Maintenance and monitoring recommendations:

1. Bare soil areas should be reseeded and continued to be monitored as part of routine maintenance.
2. Wet areas on the downstream slope and toe should be monitored during weekly inspections. If conditions worsen, an engineered solution specific to the area should be followed when making the repair.
3. It is recommended that the station install approximately 500 linear feet of new engineered toe drain system on the south end of the pond within the next year. Installing a new toe drain would improve seepage control, relieve pressure within the dike in this area, and address minor wet areas exterior to the pond. After installation, rutted and eroded areas should be repaired, resloped and monitored until stabilization.
4. Rocked areas located on the impoundment's northwest downslope corner with limited space for cutting equipment should be sprayed to limit vegetation growth.
5. Root growth around heavily vegetated headwalls should be removed and headwall discharge pipes and areas should be cleaned. Areas of scour near the discharge pipes should be repaired with rock.

5.2.4 Units 3 & 4 Slurry Pond

Maintenance and monitoring recommendations:

1. Bare soil areas should be reseeded and continued to be monitored as part of

routine maintenance.

2. Wet areas on the downstream slope and toe should be monitored during weekly inspections. If conditions worsen, an engineered solution specific to the area should be followed when making the repair.