Progress Energy

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Subject: Carolina Power & Light Co. d/b/a Progress Energy Carolinas, Inc. (Progress Energy)
Request for Coal Combustion Residual Site Assessment Recommendations Response

By letters dated January 12, 2012, the United States Environmental Protection Agency (EPA) released the final site assessment reports of the Coal Combustion Residual (CCR) impoundments at four Progress Energy power plant sites: H. F. Lee Steam Electric Plant, H. B. Robinson Steam Electric Plant, L. V. Sutton Electric Plant, and W. H. Weatherspoon Steam Electric Plant. The reports provide recommendations and actions that your engineering contractors believe should be undertaken to ensure the stability of the CCR impoundment(s) located at each power plant. As requested, enclosed are our comments and action plans on how Progress Energy intends to address each of the recommendations found in the final report for these power plants.

Thank you for the opportunity to provide comments. If you have any questions about this submittal, please contact me at 919-546-5286 or email at fred.holt@pgnmail.com.

Very truly yours,

Fred Holt
Supervisor, Environmental Services

FTH/rb
Enclosures

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Enclosure 1

Progress Energy Carolinas, Inc., H. F. Lee Steam Electric Plant
Final EPA CCR Assessment Report Recommendations and Progress Energy Comments

1.2.1 Recommendations Regarding the Structural Stability
Periodic monitoring and testing consistent with the 2010 Limited Field Inspection, Lee Plant, dated 12/3/2010 (Appendix A of the final report, Doc 04: 2010 Inspection Report) is recommended for the Active Ash Pond. The proposed expanded seepage stabilization measures have been completed. After the initial site visit, an as-built drawing and NCDENR approval have been provided by PEC (Appendix A of the final report, Doc 11: Approval to Impound and Doc 12: Seepage Repair As-built). Stabilization and protection against future erosion is recommended for Ash Pond 2 (inactive). No recommendations appear warranted at this time for Ash Pond 1 (inactive) and Ash Pond 3 (inactive).

Progress Energy Comment: Progress Energy notes no recommendations for Ash Ponds 1 or 3. See response to item *1.2.5 Recommendations Regarding the Field Observations* for further comment on Ash Pond 2 (inactive).

1.2.2 Recommendations Regarding the Hydrologic/Hydraulic Safety
No recommendations appear warranted at this time.

Progress Energy Comment: No further comment.

1.2.3 Recommendations Regarding the Supporting Technical Documentation
Provide analysis of potential for liquefaction in Active Ash Pond embankment.

Progress Energy Comment: Progress Energy is in the process of retiring the coal fired generation units at this plant. Subsequent to the retirement Progress Energy will initiate a decommissioning process. As part of these activities Progress Energy will perform an analysis for liquefaction for all of the ash ponds as part of the decommissioning process. This analysis is currently planned to be performed in 2013.

1.2.4 Recommendations Regarding the Description of the Management Unit(s)
No recommendations appear warranted at this time.

Progress Energy Comment: No further comment.

1.2.5 Recommendations Regarding the Field Observations
The following issues need to be addressed with routine maintenance:
Remove woody vegetation along downstream slope of the Active Ash Pond;
Properly fill one bore hole along crest;
Repair, stabilize and protect from future erosion undercutting (scarp) along downstream slope of Ash Pond 2 (inactive);

Progress Energy Comment: Progress Energy has completed the removal of the woody vegetation as per recommendations. The dam was inspected by NCDENR Dam Safety personnel in both 2011 and 2012, and they have verified all woody vegetation have been removed from the dam exterior surfaces.

The bore hole identified during the inspection was filled by a contractor as per engineering specifications within a week after being identified by the inspection.

Ash Pond No. 2 has been inactive for over 30 years, and is part of the ongoing inspection and monitoring program. Progress Energy will continue to monitor any changes in the area of concern at the toe of the downstream embankment. Due to the limited remaining life of the coal units at the H.F. Lee Plant, Progress Energy will continue to monitor the slope for any detrimental changes, and will address the recommendation as part of the ash closure design and implementation currently being developed.

1.2.6 Recommendations Regarding the Maintenance and Methods of Operation
No recommendations appear warranted at this time.

Progress Energy Comment: No further comment.

1.2.7 Recommendations Regarding the Surveillance and Monitoring Program
No recommendations appear warranted at this time.

Progress Energy Comment: No further comment.

1.2.8 Recommendations Regarding Continued Safe and Reliable Operation
Analysis for potential of liquefaction should be performed. Develop an action plan to increase the factors of safety for the ash pond embankments at all locations to meet or exceed the minimum requirements for factors of safety for steady state (normal) and seismic loading conditions.

Progress Energy Comment: Refer to response to 1.2.3. In addition, an analysis will be performed of the dam stability at all of the dams to assess the factors of safety and to determine if further stability enhancements are needed. If further stability enhancements are warranted, they will be conducted as part of the decommissioning process. This analysis is currently planned to be performed in 2013.

Enclosure 2

Progress Energy Carolinas, Inc., H. B. Robinson Steam Electric Plant
Final EPA CCR Assessment Report Recommendations and Progress Energy Comments

1.2.1 Recommendations Regarding the Hydrologic/Hydraulic Safety
No recommendations appear warranted at this time. PEC has indicated that the plant plans to maintain flood storage capacity of the ash pond by continuing dry handling of the fly ash and by stacking bottom ash as necessary.

Progress Energy Comment: No further comment.

1.2.2 Recommendations Regarding the Description of the Management Unit(s)
It is recommended that record drawings be corrected or amended, as appropriate, to eliminate confusion as to the size of the buried portion of the overflow riser at the Ash Pond. PEC has indicated that the existing riser pipe size will be verified in the field and any necessary changes will be made to the as-built drawings.

Progress Energy Comment: Progress Energy or a consultant will perform an interior video camera inspection and provide inspection results as part of our annual independent inspection. The annual inspection for the H. B. Robinson Steam Electric Plant is currently scheduled for the first quarter of 2012. All appropriate drawings will be updated as required.

1.2.3 Recommendations Regarding the Field Observations
It is recommended that routine maintenance pay particular attention to:

a. *Re-establishing good grass cover in areas of sparse grass growth and in areas damaged by mowers;*
b. *Filling holes in the embankment slope just above the downstream toe riprap with suitable filter materials to minimize continuing erosion of embankment soil into the voids of the riprap; lining the larger holes with filter fabric before filling them with coarse filter stone may be beneficial;*
c. *Re-establishing soil cover and good grass growth where erosion of backfill soil has exposed an ash sluice line in the slope, in order to arrest continued erosion, which unchecked could eventually result in the development of gullies in the embankment slope along the sluice line(s);*
d. *Improving drainage from the right (south) downstream toe swale in order to dry up the persistent wet area, which would allow ease of mowing and facilitate inspections;*
e. *Controlling growth of woody vegetation in the riprap on the upstream slope of the north portion of the dike; and*
[f]. *Although the erosion at the outlet end of the outfall pipe is not serious at this time and is relatively remotely located from the outside toe of the ash pond dike, it would be good practice to protect the bank or otherwise arrest erosion to prevent potential undermining and damage at the end of the outfall pipe.*

Progress Energy Comment: All items identified in item 1.2.3 have either been addressed or will be addressed as part of the routine maintenance program by the end of the first quarter of 2012.

1.2.4 Recommendations Regarding the Surveillance and Monitoring Program

It is recommended that periodic interior inspection of the outlet structure with a "bore hole" video camera be included as part of PEC's inspection program for the ash pond dike (see Subsection 9.3.1 of the final report for discussion).

Progress Energy Comment: An interior video camera inspection will be conducted and inspection results provided as part of the annual independent inspection currently scheduled for the first quarter of 2012.

1.2.5 Recommendations Regarding Continued Safe and Reliable Operation

None of the above recommendations is currently considered urgent but should be done within a reasonable time frame, so that some of them do not grow into bigger issues.

Progress Energy Comment: No further comment.

Enclosure 3

Progress Energy Carolinas, Inc., L. V. Sutton Electric Plant
Final EPA CCR Assessment Report Recommendations and Progress Energy Comments

1.2.1 Recommendations Regarding the Structural Stability
A liquefaction potential analysis should be performed. Also Section B-2 of the 1971 Ash Pond is marginally acceptable for meeting Minimum Factors of Safety for both static and seismic conditions. We would recommend that Progress Energy monitor the slope's performance and potentially add buttressing or take other actions to improve the stability of the slope.

Progress Energy Comment: Progress Energy is in the process of the selection of an engineering firm to perform the liquefaction analysis of both the 1971 (1983) and 1984 ash ponds. This analysis should be completed by the fourth quarter of 2012.

Progress Energy has announced the retirement of the fossil units at the L. V. Sutton Plant after the natural gas units are constructed and operational, scheduled by the end of 2013. Subsequent to the retirement of the coal units, Progress Energy will initiate decommissioning of the site. This will include closure of the 1971 (1983) and 1984 structures. Progress Energy acknowledges that Section B-2 of the 1971 (1983) ash pond has marginal, but adequate safety factors. With the pending closure of the fossil plant and the current dam inspection program, Progress Energy will continue to monitor the exterior dike in Section B-2. Significant changes in the surface condition of the dike will be addressed by a qualified consulting engineering firm with enhancements made as recommended.

1.2.2 Recommendations Regarding the Field Observations
The following issues need to be addressed with routine maintenance:

- *Continue coordinating with NCDENR about trees on downstream slope to determine a resolution.*
- *Re-vegetate downstream embankment where necessary.*
- *Re-vegetate interior embankment where recent work has taken place.*
- *Address burrows along downstream slope.*
- *Address rill erosion at locations along downstream embankment.*
- *Address undercutting and erosion around outfall.*

Progress Energy Comment: Progress Energy will continue to work with NCDENR Division of Land Resources to co-ordinate the removal of the trees as identified in this report. The first scheduled cutting of the trees is scheduled for the end of 2012.

The downstream and interior embankment areas needing improved vegetation control have been seeded. Progress Energy will continue to maintain the vegetation as necessary.

All dikes are visually inspected on a weekly basis. Eroded areas and animal burrows identified during inspections are addressed per recommended practices of NCDENR Division of Land Resources. Progress Energy will continue to perform these inspections and take corrective actions as needed.

Progress Energy has evaluated the areas around the outfall and has determined that the erosion areas identified are not active and do not pose an ongoing threat to structural stability of the

dam or the discharge structure. Progress Energy will install ABC stone fill at the identified areas of erosion at the side walls of the discharge structure in the immediate future and continue to monitor as per current operating process.

1.2.3 Recommendations Regarding Continued Safe and Reliable Operation

None warranted except those cited above.

Progress Energy Comment: No further comment.

Enclosure 4

Progress Energy Carolinas, Inc., W. H. Weatherspoon Steam Electric Plant
Final EPA CCR Assessment Report Recommendations and Progress Energy Comments

1.2.1 Recommendations Regarding the Structural Stability
An action plan needs to be developed to prevent the number of trees and wooded vegetation from increasing along any ash pond embankment and for remediating the original dike. It was noted that the tree removal and dike repair will require NCDENR approval. A liquefaction analysis should be performed to further characterize the safety of the embankments.

Progress Energy Comment: Subsequent to the report, Progress Energy has closed the fossil units at the W. H. Weatherspoon Steam Electric Plant and is no longer sluicing ash to the pond. Additionally, Progress Energy is initiating design for a decommissioning of the site. As part of this decommissioning, Progress Energy will perform a liquefaction analysis on the ash pond. This analysis is scheduled in 2012. Progress Energy will continue to perform routine maintenance of the ash pond dike to prevent the growth of any additional trees within the limits of the ash pond dikes.

1.2.2 Recommendations Regarding the Field Observations
The following recommendations made in the Draft report were addressed by PEC as part of the remediation activities that were permitted by NCDENR and implemented in 2011:

- *Installed animal guards at toe drains*
- *Began monitoring seepage along downstream toe along southern, eastern and western dikes*
- *Repaired rutting along crest*
- *Addressed standing water within roadside ditches downstream of toe*

Progress Energy Comment: As the recommendation indicates, Progress Energy has:

- ✓ Completed the installation of animal guards on all toe drains,
- ✓ Modified the existing ongoing monitoring program to address the areas identified in the report. Numerous studies and monitoring observations demonstrate that the seepage has not changed in over 20 years. Progress Energy will continue to monitor the seepage until the ash ponds are closed or until such time when the monitoring is no longer required.
- ✓ Completed the repair of the rutting due to vehicle and heavy equipment traffic as per inspection recommendations. Rutting will be monitored and repaired as needed.

The inspection conducted by the EPA contractors was performed just after a heavy rain at the site, thus an abnormal amount of water was present in the ditch in question. The drainage ditches are the collection points for the seepage that comes from the south side of the dam. The ditch will continue to be monitored during the monthly inspections.

1.2.3 Recommendations Regarding the Maintenance and Methods of Operation
Removal of trees and woody vegetation needs to be addressed more often. It is noted this has been adopted in recent inspection reports. NCDENR has requested the current 8-inch and larger trees be left.

Progress Energy Comment: Progress Energy has completed the repairs that were approved by NCDENR Division of Land Resources as provided in the report. The remaining trees with a diameter of greater than 8 inches were left at the direction of NCDENR Division of Land Resources. The repairs were inspected by NCDENR and determined to meet the design requirements. Progress Energy will continue to perform routine maintenance of the ash pond dike to prevent the growth of any additional trees within the limits of the ash pond dikes.

1.2.4 Recommendations Regarding Continued Safe and Reliable Operation

For continued safe operation we recommend the following:

Address tree removal along the downstream slope while coordinating with NCDENR.

Progress Energy Comment: Progress Energy has completed the repairs that were approved by NCDENR Division of Land Resources as provided in the report. The remaining trees with a diameter of greater than 8 inches were left at the direction of NCDENR Division of Land Resources. The repairs were inspected by NCDENR and determined to meet the design requirements. Progress Energy will continue to perform routine maintenance of the ash pond dike to prevent the growth of any additional trees within the limits of the ash pond dikes.