US EPA ARCHIVE DOCUMENT

Dominion Power Chesterfield Power Station Draft Report Comments

EPA:

None

State Comments:

None.

From: "Ricks, Bradford (DEQ)" <Bradford.Ricks@deq.virginia.gov>
To: James Kohler/DC/USEPA/US@EPA
Date: 07/07/2010 03:38 PM
Subject: RE: Comment Request on EPA Draft Assessment Reports for Dominion Power's Bremo, Chesterfield, Chesapeake, and Possum Point Power Plants

The DEQ piedmont office does not have any comments on the Chesterfield Assessment Report, but thank you for the opportunity. I have forwarded your email to the Tidewater, Northern, and Blue Ridge regional offices for the Chesapeake, Possum Point, and Bremo power stations, respectively.

Brad Ricks
Waste Program Team Leader
DEQ - Piedmont Regional Office
804 527 5129

This email should not be considered a legal opinion or a case decision as defined by the Administrative Process Act, Code of Virginia § 2.2-4000 et seq.

Company:

See attachment dated August 11, 2010.

US EPA ARCHIVE DOCUMENT

Pamela F. Faggert
Vice President and Chief Environmental Officer

Dominion Resources Services, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
Phone: 804-273-3467

Dominion®

August 11, 2010

Mr. Stephen Hoffman
US Environmental Protection Agency (5304P)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Comments on EPA Draft Assessment Reports for Dominion Power's Bremo, Chesterfield, Chesapeake, and Possum Point Power Plants

Dear Mr. Hoffman:

Thank you for providing the opportunity to comment on the draft Dam Safety Assessment of CCW Impoundments for Dominion's Bremo, Chesterfield, Chesapeake, and Possum Point Power Stations. Our comments are provided as Attachments A through D for each of the named power stations, respectively.

After the Kingston Ash Dredge Cell failure in late 2008, Dominion proactively conducted extensive re-evaluations of management practices of its ash ponds, including those that were not regulated as dams. Based on these evaluations, we developed and are implementing action plans to address identified issues. We will continue our activities to make improvements. In light of these efforts, we request that EPA establish a method for recognizing these improvements and reassessing the condition ratings identified in the Dam Safety Assessments of CCW Impoundments.

If you have any questions, please contact Mr. Glenn Johnson at (804) 273-2946.

Sincerely,

Pamela F. Faggert

Pamela F. Faggert

Enclosures: Attachments A – D

ATTACHMENT A – Comments for Bremo Power Station

1. Page 2 and throughout the report: various reference are made to Dominion Virginia Power, Virginia Electric & Power Company, Dominion Resources, Inc., Dominion Generation, and Dominion Resources Services, Inc. In the interest of clarity and consistency we suggest that Page 2 reference ownership as Dominion Virginia Power (Virginia Electric & Power Company), a subsidiary of Dominion Resources, Inc. and that all subsequent references to the company and its representatives simply be stated as "Dominion Virginia Power"(DVP).

2. Page 3, Section 2.1.1: The proper name of the Virginia dam safety agency is "Virginia Department of Conservation & Recreation (DCR) – Dam Safety".

3. Page 3, Section 2.1.1 and throughout the report: Reference is made to the "Heavy Metals Pond". This is misleading. The correct nomenclature is the "Metals Pond". Please make this correction throughout the document.

4. Page 3, Section 2.1.1: Please note that the West Ash Pond and the Metals Pond may have been constructed concurrently in 1978 and 1979.

5. Page 3, Section 2.1.2: Please revise the first sentence to more accurately reflect the description of the location of the North Ash Pond. The sentence should read: "The North Ash Pond is located north and east of the power station."

6. Page 4, Section 2.1.2: Please correct reference to read "… Virginia Impounding Structures Regulations." Also, the dam is listed in the Virginia DCR inventory as number 06520.

7. Page 4, Section 2.2, Last Paragraph: Since the date of the assessment, the Virginia DCR has determined that the North Ash Pond should be classified as a significant hazard dam.

8. Page 7, Section 2.3.1, First full paragraph: In the first sentence, the statement should read: "…the design maximum impoundment water surface elevation."

9. Page 7, Section 2.3.1, Last paragraph: Should read: "Piezometers and observation wells…"

10. Page 8, Section 3: In the interest of clarity and consistency we suggest that references to the company simply be stated as "Dominion Virginia Power".

11. Page 9, Table 3.2: Please add the following Description for the Document(s) entitled Operating Plan and Schedule, Maintenance Plan and Schedule, Inspection Schedule, and Emergency Action Plan Schedule – "Supporting documents required by the Virginia DCR – Division of Dam Safety as part of the operation and maintenance certificate application".

12. Page 9, Table 3.2: Please add the following Description for the Document entitled Operation and Maintenance Certificate Application for Virginia Regulated Impounding Structures (Renewal) – "Required by the Virginia DCR – Division of Dam Safety to operate a regulated dam in Virginia."

13. Page 9, Section 3.1, West Ash Pond, First bullet: Please note that the West Ash Pond and the Metals Pond may have been built concurrently.

14. Page 10, Section 3.1, North Ash Pond, Second and seventh bullets: A seismic analysis has now been completed showing that the dam meets acceptable criteria for stability during a seismic event. A copy of this analysis has been provided to EPA's consultant.

15. Page 11, Section 3.1, Second sentence: Please clarify to read – "The hazard classification of LOW as defined in the Virginia Impounding Structures Regulations was recommended, but the VDCR has classified the dam as a SIGNIFICANT hazard dam."

16. Page 11, Section 3.1.1, West Ash Pond: Please correct first sentence to read: "Stormwater inflows to the West Ash Pond…" Also, please augment this description with the following sentence: "Some stormwater collected from other areas of the power station are pumped to the West Ash Pond on an intermittent basis."

17. Page 11, Section 3.1.2: Please correct the subtitles to read: "West Ash Pond" and "North Ash Pond".

18. Page 12, Section 3.1.3, West Ash Pond: Please note that the West Ash Pond and the Metals Pond may have been built concurrently.

19. Page 12, Section 3.1.4, Please clarify last sentence to read: "… from the impoundment and is used for monitoring of decant water outflow.

20. Page 12, Section 3.2: The North Ash Pond has been a regulated impoundment since 1990. Replace "previous" with "most recent"

21. Page 13, Table 4: For consistency and clarity, please state the affiliation of DVP participants as "Dominion Virginia Power". Also, the job title for John Matthews is Supervisor, F&H Technical Support and for Mike Isper is Environmental Specialist III.

22. Page 15, Section 4.1.2, Second bullet: Please correct second sentence to read "North Ash Pond".

23. Page 16, Section 4.1.2, First line: Please correct to read "Metals Pond"

24. Page 17, Section 4.2.2 Second bullet: This observation notes "superficial sloughing" on the wave berm and upstream slope. DVP believes that, instead of sloughing, this may be excess material stockpiled and disturbed by mobile equipment.

25. Page 17, Section 4.2.2, Seventh bullet: The observation that "significant vegetation and trees were observed downstream of the emergency spillway" is not clear. Does this imply that vegetation control is needed or not? If not, this observation should be removed.

26. Page 18, Section 5: Please correct subtitles to read: "West Ash Pond" and "North Ash Pond".

27. Page 18, Section 5, West Ash Pond: DVP disagrees with the FAIR condition rating of the dam. Standing water in the toe ditches is a minor maintenance item, likely related to surface drainage in the area. The "pressurized discharge pipeline" is actually a pumped stormwater pipe that is only a couple of feet below the surface and only operates intermittently. A leak in this line causing dike erosion would be detected by daily drive-around inspections. A dam failure would be unlikely. Furthermore, as stated in this section, the West Ash Pond's performance is expected to be acceptable, thus dike stability is not in question. DVP respectfully asks that the FAIR rating be reconsidered and a rating of SATISFACTORY be given.

28. Page 18, Section 5, North Ash Pond: A seismic stability analysis has been conducted for the North Ash Pond. This analysis determined that the dam is stable under seismic loading conditions. As such, DVP asks that the FAIR rating be reconsidered and a rating of SATISFACTORY be given to the North Ash Pond.

29. Page 19, Section 6.1: Please correct to read: "West Ash Pond" and "North Ash Pond"

30. Page 19, Section 6.2, West Ash Pond, Second bullet: Please indicate that DVP currently performs the recommended maintenance actions noted here.

31. Page 19, Section 6.2, West Ash Pond, Third bullet: Please indicate that DVP is currently conducting a survey to assess topography to form the basis for future regrading of perimeter ditches, if indicated by the survey.

32. Page 19, Section 6.2, West Ash Pond, Fourth bullet: The storm water discharge pipe is only a couple of feet below the surface and only operates intermittently. Please see comment for Page 18, Section 5, West Ash Pond, above.

33. Page 20, Section 6.2, North Ash Pond: With respect to all four bulleted recommended maintenance actions, please note that DVP currently performs the recommended activities.

34. Page 20, Section 6.3, First paragraph, Second sentence: Please remove this sentence, which reads: "Consideration should also be given to independent inspections by independent licensed dam safety engineers on at least a biennial or triennial basis." DVP currently conducts annual inspections of the dam by a licensed engineer. Biennial or

triennial inspections by an independent engineer are not required for this structure by VDCR regulations.

35. Page 20, Section 6.3 Second paragraph, Last sentence: Please indicate that DVP currently documents the information noted in this recommendation.

36. Page 20, Section 6.4: Please indicate that DVP currently conducts mowing operations twice per year to control vegetation.

37. Page 21, Section 6.5: DVP asks that the condition rating for the two ash ponds be reconsidered on the basis of our comments for Page 18, Section 5 (above) and ratings of SATISFACTORY be given.

38. Appendix A, Coal Combustion Waste Impoundment Inspection form: The State Agency (Field Office) Address is incorrect. The correct location is Harrisonburg, VA.

39. Appendix B, Photographic Log: Please correct all descriptions currently referencing the "Heavy Metals Pond" to read "Metals Pond".

40. Appendix B, Photo B16: Please correct note to read "Standing water <u>in ditch</u> at toe of slope."

41. Appendix C, Photo C1: The photo does not indicate evidence of the "superficial sloughing" referenced in the associated note. Please remove note.

42. Appendix C, Photo C2: DVP does not believe the indicated area is sloughing. See comment for Page 17, Section 4.2.2.

43. Appendix C, Photo C4: Please correct note to read "Piezometer <u>and</u> observation wells on upstream slope."

44. Appendix C, Photo C16: Please correct description to read "Stilling Basin / Overflow".

ATTACHMENT B – Comments for Chesapeake Energy Center (CEC)

1. Section 1.2 and throughout the report: various reference are made to Dominion Virginia Power, Virginia Electric & Power Company, and Dominion Power. In the interest of clarity and consistency we suggest that Section 1.2 reference ownership as Dominion Virginia Power (Virginia Electric & Power Company), a subsidiary of Dominion Resources, Inc. and that all subsequent references to the company and its representatives simply be stated as "Dominion Virginia Power"(DVP).

2. Section 2.1, First paragraph: The date of station commissioning, as presented in the report, is incorrect. The correct station commissioning date is 1951.

3. Section 2.1, Second paragraph and throughout the report: The structure identified in the report as the "Dredged Materials Pond" is more accurately named the "Dry Ash Landfill". Please make this change throughout the report and Appendices.

4. Section 2.1, Second paragraph, Fifth sentence: Please revise to read "… it was converted to a dry landfill <u>when the impoundment became full and</u> when Bottom Ash…".

5. Section 2.2.1, Third sentence: Please revise this sentence to more accurately read "The dry ash landfill forms the impoundment's northern boundary."

6. Section 2.2.2: The reference to the "Dredged Materials Pond" should be changed to "Dry Ash Landfill". Also, note that, when the original CCW impoundment was converted to the Dry Ash Landfill, a liner was placed between the original ponded ash surface and the dry ash. A leachate collection system was also installed. Stormwater run-off and leachate from the Dry Ash Landfill are diverted to the Bottom Ash and Sedimentation Pond.

7. Section 2.2.2: The reference to the "Oily Waste Pond" is inaccurate. This structure is more accurately named the "Spill Retention Pond". Since the Spill Retention Pond is not part of the CCW impoundment, DVP asks that this bullet be removed from the report.

8. Section 2.4: Please correct the second sentence to read "The location of the impoundment <u>at</u> the Chesapeake Energy Center…"

9. Section 2.4.1, First paragraph: Please note that the Bottom Ash and Sedimentation Pond has no liner.

10. Section 2.4.1, Third paragraph: Please remove this paragraph since the Spill Retention Pond does not handle CCW. If this paragraph must be retained, please note that the primary function is to serve as an oil spill collection basin. Its incidental function is to collect wastewater from Units 1 and 4.

11. Section 2.4.2, Second sentence: Please revise this sentence to more accurately indicate that fly ash generated at CEC is processed at the on-site carbon burn-out facility, sold for beneficial reuse, or landfilled on-site.

12. Section 3.1: In the table that presents the length of the crest of the dam, please correct to show the East Embankment approximate length is 400 feet and the West Embankment approximate length is 400 feet.

13. Section 3.1, Sixth bullet: Please note that this statement is based on the 2010 Schnabel report.

14. Section 3.1, Tenth and Eleventh bullets: Both of these bullets indicate footnote references. However, we find no footnotes in the draft. Please remove the footnote references.

15. Section 3.1. Twelfth bullet: Please note that DVP believes the observed deficiencies are the result of bank erosion, not shallow slope failure. DVP is investigating alternatives to repair the deficiencies.

16. Section 3.1, Page 7, top of page: With respect to the referenced Recommended Action Plan, please note that field topographic surveys have been completed. Also, please note that a study is currently underway to develop the conceptual design for repairs to the East and West dikes. Additionally, please note that the station continues to make daily observations of the condition of the eastern and western embankment slopes and dikes.

17. Section 3.1.1, Page 8: Please note that the conceptual design study (see previous comment) is also addressing hydrologic and hydraulic capacity analyses of the pond and its ability to safely pass the 100-year flood event.

18. Section 3.1.3: Upon further inquiry of station personnel it has been determined that the wells installed during Schnabel's subsurface investigation were not abandoned at the end of the program.

19. Table 3.2: Please correct the names and title of the following individuals:
    Paul Dickson – Environmental Supervisor
    Glenn Johnson – Supervisor, Environmental Regulation

20. Section 4.2, Fifth bullet: Please clarify this statement to read: "...along the toe of the eastern embankment <u>opposite the spill retention pond</u> (Photo 9)."

21. Section 4.2, Sixth and Seventh Bullets: In both bullets, please remove the phrase "and/or shallow slope failures". While the western and eastern embankments have experienced localized erosion, DVP believes that there have been no shallow slope failures in the embankments foundation.

22. Section 5, first paragraph: Please remove the term "slope failure" from the last sentence of this paragraph. While the western and eastern embankments have experienced localized erosion, DVP believes that there have been no shallow slope failures in the embankments foundation.

23. Section 5: DVP asks that the assessed rating of "POOR" be reconsidered. After the Kingston Ash Dredge Cell failure in late 2008, DVP proactively conducted extensive re-evaluations of management practices of its ash ponds, including those that were not regulated as dams. In 2009 and 2010, DVP implemented the following for these unregulated structures:
    - Removed grown up vegetation on dike slopes and implemented regular vegetation control.
    - Performed visual inspection of non-regulated ash pond dikes by a registered Professional Engineer and implemented a program of annual inspection.
    - Implemented a dam inspection and maintenance strategy for all DVP coal-fired power stations that have impoundments.
    - Initiated geotechnical investigations of DVP's three non-regulated ash pond dams and performed stability analyses.
    - Developed action plans to address stability deficiencies identified by these investigations and analyses.
    - Initiated topographic surveys and conceptual design studies, currently in progress, to address deficiencies.

    These actions were implemented proactively to identify and correct deficiencies to bring the Bottom Ash and Sedimentation Pond into compliance with generally accepted industry standards. Actions are ongoing to address the identified deficiencies. For these reasons, we do not believe that a POOR rating is warranted and request that the rating be changed to FAIR.

24. Section 6.1: Please note that the referenced surveys and dike repair conceptual design studies are in progress as indicated in our comments for Section 3.1

25. Section 6.2: Please note that daily observations of the eastern and western embankment slopes are being conducted. Additionally, a program for annual inspections has been implemented. Also, the current conceptual design study for dike repairs includes a flood routing analysis.

26. Section 6.3: Please note that DVP's annual inspection program for the Bottom Ash and Sedimentation Pond dike is conducted in accordance with VDCR requirements.

27. Section 6.5: As stated in our comment for Section 5 (above), we ask that the current rating of POOR be reconsidered. We do not believe that a POOR rating is warranted and request that the rating be changed to FAIR.

28. Draft Figure 2: Please correct the name of the landfill area to read "Dry Ash Landfill". Also, the label entitled "Oily Water Pond" is inaccurate. The correct label is "Spill

Retention Pond".

29. Draft Figure 3: Same comment as for Figure 2. Additionally, please correct the labels entitled "Erosion/Slope Failure" to more accurately read "Erosion". While the western and eastern embankments have experienced localized erosion, DVP believes that there have been no shallow slope failures in the embankments foundation.

30. Appendix A, Visual Inspection Checklist: Please refer to the Unit Name as "Bottom Ash and Sedimentation Pond".

31. Appendix A, CCW Impoundment Inspection Form: Please refer to the Impoundment Name as "Bottom Ash and Sedimentation Pond". Also, on Page 5 of this form, the impoundment was designed by GAI Consultants.

32. Photo Number 3: Please remove language in description regarding localized shallow slope failure. While the western and eastern embankments have experienced localized erosion, DVP believes that there have been no shallow slope failures in the embankments foundation.

33. Photo Number 8: Please remove language in description regarding localized slope failure of toe. While the western and eastern embankments have experienced localized erosion, DVP believes that there have been no shallow slope failures in the embankments foundation.

34. Photo Number 17: Please correct the description to read "Interior of Spill Retention Pond".

ATTACHMENT C – Comments for Chesterfield Power Station

Universal comment: various references are made to Dominion Virginia Power, Virginia Electric & Power Company, Dominion Resources, Inc., Dominion Generation, and Dominion Resources Services, Inc. In the interest of clarity and consistency we suggest that Page 2 reference ownership as Dominion Virginia Power (Virginia Electric & Power Company), a subsidiary of Dominion Resources, Inc. and that all subsequent references to the company and its representatives simply be stated as "Dominion Virginia Power"(DVP).

1. Page 2, Second Sentence, Second Paragraph – Please correct the estimate of ash sluice water discharged to the Lower Ash Pond to read 5 million gallons of ash sluice water per day

2. Page 2, Third Sentence, Second Paragraph – Delete this sentence. As a general rule, all ash from the lower pond is taken up to upper pond for disposal (it is not beneficially re-used).

3. Page 2, Fourth Sentence, Second Paragraph – Ash is dipped from the channels of the lower pond. Stockpiles of ash are allowed to dry, loaded into trucks and hauled to the dry disposal area of the upper pond. As needed, accumulated ash is dredged from the lower pond, allowed to dry, and hauled to the dry disposal area of the upper pond. Please change this sentence to state the following: Until 2002, accumulated ash was periodically dredged and pumped to the Upper Ash Pond for final storage.

4. Page 2, Sixth Sentence, Second Paragraph - Please change this sentence to state the following: The closure design includes dry disposal of additional ash above the filled-in surface of the wet disposal impoundment.

5. Page 2, Section 2.1.1, First sentence – Please change this sentence to state the following: The Lower Ash Pond is located on the south side of the power station.

6. Page 2, Section 2.1.1, Second sentence – Please change this sentence to state the following: The Lower Ash Pond is not currently regulated as a dam by the Virginia Department of Conservation and Recreation (DCR) – Division of Dam Safety.

7. Page 2, Section 2.1.1, second to the last sentence – Water is routed through channels excavated into the accumulated ash into the main body of the lower pond. The water in the lower pond ultimately outfalls into the James River via a concrete decanting structure located in the southwest corner of the pond.

8. Page 2, Section 2.1.2; second to the last sentence- Please change this sentence to state the following: The Upper Ash Pond is regulated by the Virginia Department of Conservation & Recreation in accordance with the Virginia Impounding Structures Regulations (Virginia DCR Inventory #04145).

9. Page 3, Section 2.2, Paragraph 1 – Please change "Structure" to "Structures" throughout this paragraph

10. Page 3, Section 2.2, Paragraph 2 – Please change "Structure" to "Structures" throughout this paragraph

11. Page 4, Section 2.3, second sentence - Please change this sentence to state the following: The location of these impoundments on the station property is shown on Figure 2.

12. Page 4, Section 2.3, third sentence – Please change this sentence to state the following: Site Plans of the Lower Ash Pond and the Upper Ash Pond and their relevant features are provided as Figure 3 and Figure 4, respectively.

13. Page 4, Section 2.3, fourth sentence – Please change this sentence to state the following: Additionally, photos taken during the visual inspection are incorporated in Photographic Logs provided as Appendices B and C for the Lower Ash Pond and Upper Ash Pond, respectively.

14. Page 4, Section 2.3.1, Lower Ash Pond, fourth sentence – Please change this sentence to state the following: The west dike is the highest at approximately 19 feet above the outboard toe of slope at the southwest corner of the pond where the dike crosses Farrar Gut (see Figure 3).

15. Page 4, Section 2.3.1, last Sentence in Upper Pond Section – Based on projections in the closure plan, completion of these closure activities is expected sometime between 2023 and 2028.

16. Page 5, Section 2.3.2, Upper Ash Pond, first sentence – Please change this sentence to state the following: As mentioned above, water-borne CCW is no longer being transferred to the Upper Ash Pond; however, the Upper Ash Pond Closure Plan includes placement of dried and compacted CCW above the crest elevation of the original perimeter dikes.

17. Page 5, Third Sentence in first paragraph at top of the page – Based on projections in the closure plan, closure operations are anticipated to be complete in the 2023 to 2028 time frame.

18. Page 5, Section 2.3.3, two sentences before the last sentence in the upper pond section – The outlet is a controlled discharge that is generally discharged once per year. If the water level reaches a high enough level, it can discharge on its own. As such, the water can be pumped to the lower pond, if necessary, to prevent a non-controlled discharge. This is not a normal occurrence.

19. Page 7, ninth bullet down – Please change the year to "2009"

20. Page 7, ninth bullet down, Second sentence – Please change this sentence to state the following: Their February 2010 report indicated the downstream slope stability factors of safety against deep-seated failure meet accepted criteria for embankment dams under all load cases analyzed with the exception of normal pool – steady state seepage with truck surcharge loading.

21. Page 8, third bullet down, first sentence – Please change this sentence to state the following: In 1993, fill was placed along the northeast end of the north dike toe berm, as part of the construction of an access road to Henricus Park..

22. Page 8, Section 3.1.1, first paragraph, first sentence - – Please change this sentence to state the following: Storm water inflows to the Lower Ash Pond are minimal.

23. Page 8, Section 3.1.1, second paragraph, first sentence - – Please change this sentence to state the following: The Upper Ash Pond has been filled completely and is currently being closed by placing compacted dry ash in an engineered fill above the original top of pond elevation.

24. Page 9, Section 3.1.2, second paragraph first sentence – Please change 'disposal' to 'placement'.

25. Page 9, Section 3.1.3, third paragraph first sentence – Please change 'disposal' to 'placement'.

26. Page 10, Section 3.2, paragraph 1, first sentence – Please change "Chesapeake" to "Chesterfield".

27. Page 10, Section 3.2, paragraph 2, first sentence – Please change "Structure" to "Structures".

28. Page 10, Section 3.3, table 3.3 – Please change Mike Isper's affiliation to "Dominion Corporate".

29. Page 11, Section 4.2, paragraph 1, first sentence – Please change the description of the Ash Pond to "Lower Ash Pond".

30. Page 11, Section 4.2, first bullet – Please change the first and second sentence to state the following: Sluiced CCW discharge enters the pond at the northern end and is routed to the south end of the pond through shallow channels that have been excavated in to the accumulated CCW deposits (Photo 1). Stock piles of ash excavated from the channels are allowed to dry, loaded onto trucks and hauled to the Upper Ash Pond closure area.

31. Page 11, Section 4.2, fifth bullet – Please change this sentence to state the following: The natural ground beyond the toe of the west dike slope exhibited some relatively small wet areas, which could be indicative of seepage, poor surface drainage or both.

32. Page 11, Section 4.2, sixth bullet – Please change this sentence to state the following: The station discharge canal eastern slope beyond the downstream toe of the western dike is covered with riprap for erosion protection.

33. Page 11, Section 4.2, seventh bullet – Please add the following sentence to this bullet: Very little of the inboard slopes are exposed above the current ash/water levels.

34. Page 12, Section 4.2, eleventh bullet - Very little of the inboard slopes are exposed above the current ash/water levels. This area of the pond has not been dredged for years; there is mostly ash and little free water along the east dike.

35. Page 12, Fifth bullet under upper pond – Reword second sentence: The outlet is a controlled discharge that is generally discharged once per year. If the water level reaches a high enough level, it can discharge on its own. As such, the water can be pumped to the lower pond, if necessary, to prevent a non-controlled discharge. This is not a normal occurrence.

36. Page 12, Section 4.2, Upper Ash Pond, next to last bullet – Please replace "formally" with "formerly."

37. Page 14, Section 5, Lower Ash Pond, last paragraph, last sentence- Please add the statement that quarterly inspections will be conducted by station personnel starting in the third quarter of 2010.

38. Page 15, Section 6.2, Lower Ash Pond – We are moving forward with the necessary topographical surveys and engineering study to develop the conceptual design of the west dike repairs.

39. Page 15, Section 6.2 first bullet – Is this requirement necessary based on pond usage and lack of dredging on the east side?

40. Page 15, Section 6.3 - We request that this sentence be reworded to state: O'Brien & Gere recommends that annual inspections by an engineer be continued in accordance with current practices.

41. Page 16, Section 6.3 – Please revise the recommendation for weekly inspections along the Upper Ash Pond north dike. The water line that serves Henricus Park is immediately adjacent to a public road and has been in place for at least 10-15 years with no issues. Due to the proximity to the road, leaks from this line would be apparent. Furthermore, the Upper Ash Pond is a dry ash impoundment that is currently undergoing closure. DVP suggests that an annual inspection by an engineer to detect seepage is sufficient to identify potential problems.

42. Page 16, Section 6.4 – Please reword the first and second sentence to state the following: Stability improvement measures for the west dike of the Lower Ash Pond should be implemented within one year of final report issuance. Maintenance items should also be addressed within one year of final report issuance.

43. Draft Figure 3 – The maximum dike height on this diagram is located just beneath symbol 8.

44. Draft Figure 4 – Please change the "Dry Disposal Area" to "Active Cell of Closure Area".

45. Photographic log (Appendix B) Lower Ash Pond Photo 2 – Please change the note on the bottom of the page to state: Note: Stockpiles of ash to be transported to upper ash pond closure area.

46. Photographic log (Appendix B) Lower Ash Pond Photo 3 – Please change the description to state: View along downstream slope and toe of west dike.

47. Photographic log (Appendix C) Upper Ash Pond Photo 3 – Please change the description to state: Concrete – lined ditches for stormwater management of runoff from dry closure areas.

ATTACHMENT D – Comments for Possum Point Power Station

Page 2 and throughout the report: various reference are made to Dominion Virginia Power, Virginia Electric & Power Company, Dominion Resources, Inc., Dominion Generation, and Dominion Resources Services, Inc. In the interest of clarity and consistency we suggest that Page 2 reference ownership as Dominion Virginia Power (Virginia Electric & Power Company), a subsidiary of Dominion Resources, Inc. and that all subsequent references to the company and its representatives simply be stated as "Dominion Virginia Power"(DVP).

1. Page 2, Section 2.1 First Sentence – Please change this sentence to state the following: The Dominion Possum Point Power Station is located in Possum Point, Virginia, approximately 3.5 miles east of Dumfries and 30 miles south of Washington, D.C.

2. Page 2, Section 2.1, paragraph 4 – Please remove this paragraph entirely. The units described in this section are not CCW Impoundment units.

3. Page 2, Section 2.2 paragraph 2 second sentence – Please change this sentence to state the following: Although CCW is not currently generated by DVP at this site, Ash Ponds D and E continue to collect stormwater from the area immediately surrounding the impoundments and Ash Pond E continues to receive disposed water collected at the generator site.

4. Page 3, Section 2.2 paragraph 3 first and second sentences – Please change this sentence to state the following: Both Ash Ponds D and E are regulated by the Virginia Department of Conservation and Recreation (DCR), and therefore, have been assigned Inventory Numbers (see inspection checklist). A one-line diagram illustrating the flow patterns to Ash Ponds D and E was provided by DVP.

5. Page 3, Section 2.2.1, paragraph 2, first sentence – Please change this sentence to state the following: The principal spillway is a reinforced concrete riser structure located at the upstream toe of the embankment on the right abutment.

6. Page3, Section 2.2.2, paragraph 2, second sentence – This statement alleging differential settlement along the crest of the dam has not been verified as fact. There could be settlement or the dam could have been constructed this way when raised in 1988. A topographic survey and assessment of the dam foundation will be conducted to determine the state of the dam. Please reword accordingly.

7. Page 3, Section 2.2.2, paragraph 2, third sentence – Please change this sentence to read: Within the past year, riprap underlain by a geotextile was placed on the upstream slope of the dike to alleviate historical erosion. This work resulted in some crest disturbance and the crest was repaired by placing geotextile, a 3"-6" layer of dense graded aggregate, and finally a layer of #57 stone to provide a better driving surface for maintenance vehicles.

8. Page 4, Section 2.2.3 - The units described in this section are not CCW Impoundment units. No other EPA report (Bremo, Chesapeake, and Chesterfield) references non-CCW ponds. As such, we believe that this information is outside the scope of the Dam Safety Assessments of CCW Impoundments and should be removed entirely.

9. Page 5, Oil Treatment Basin, Metals Cleaning Treatment Facility Pond A, Metals Cleaning Treatment Facility Pond B – We are requesting that these sections be deleted, these are not CCW units.

10. Page 5 Section 2.4, first paragraph, second and last sentence: Please replace these sentences with the following: The following sections summarize the structural components and basic operation of Ash Ponds D and E. The locations of these impoundments are shown in Figure 1. Additionally, photos taken during the visual inspection are incorporated in Photographic Logs provided as Appendices B and C for Ash Ponds D and E, respectively.

11. Page 5, Ash Pond D, first paragraph, first sentence – Please replace this sentence with the following: Ash Pond D is impounded by a cross-valley embankment and has a surface area of approximately 58 acres, at the design normal pool elevation.

12. Page 6, Section 2.4.1, Ash Pond E, first paragraph, first and second sentence – Please combine these sentences to state the following: Ash Pond E is a combination diked and cross-valley embankment structure with a total surface area of approximately 34 acres based on plan view measurement of the pond.

13. Page 7, Section 2.4.3, Ash Pond D, first sentence – Please change this sentence to state the following: The primary outlet from Ash Pond D is a concrete riser structure located at the upstream toe of the dam on the right abutment near the southwest corner of the impoundment.

14. Page 8, Section 3.1, Table 3.1 - All references to "Dominion Power" or "Virginia Power" should be changed to "Dominion Virginia Power" in this table.

15. Page 8, Section 3.2, Ash Pond D, first sentence – Please reword this sentence to state the following: Review of the design drawings revealed information on the design details for both Ash Ponds D and E as follows:

16. Page 9, First Bullet – The slurry wall and liner were placed at the end of construction to satisfy DEQ concerns. We have documentation on file for the slurry wall and liner placement.

17. Page 9, Section 3.2, Ash Pond E, bullet 7 – Please change this sentence to state the following: Data in the 1990 analysis indicated that Ash Pond D has a surface area of approximately 17.5 acres and Ash Pond E has a surface area of 25.5 acres.

18. Page 10, Section 3.2, Ash Pond E, bullet 8, d) – Please change this sentence to state the following: A staff gauge should be installed to easily determine the pond level.

19. Page 11, Section 3.2.3, third sentence – Please change this sentence to state the following: These wells and piezometers are monitored annually and this data is available.

20. Page 11, Section 3.4, second sentence – Please change this sentence to state the following: The following is a list of participants for the inspection of Ash Ponds D and E.

21. Page 12, Table 3.2 – Please provide last name and Title for Amanda. Amanda's last name is Geldard and her Title is Environmental Protection Specialist. All references to "Dominion Power" should be changed to "Dominion Virginia Power."

22. Page 13, Section 4.1, paragraph 1, second to last sentence – Please change this sentence to state the following: As previously noted, CCW material is no longer sluiced into the ponds; instead, water from general operational processes is discharged to Ash Pond E.

23. Page 13, Section 4.1, paragraph 2, first sentence – Please change this sentence to state the following: Photos of relevant features and conditions observed during the inspections were taken by O'Brien & Gere and are provided in Appendices B and C for Ash Ponds D and E, respectively.

24. Page 14, first bullet - Please change this sentence to state the following: Below the downstream slope on the right (west) abutment, there is an area of seepage that appears to be below the pond water level.

25. Page 14, 3rd bullet – Please add the following sentence to the end of this paragraph: This flow can be seen looking into the receiving manhole and is visually observed during each annual inspection.

26. Page 15, 4th bullet, second sentence - Please change this sentence to read: Within the past year, riprap underlain by a geotextile was placed on the upstream slope of the dike to alleviate historical erosion. This work resulted in some crest disturbance and the crest was repaired by placing geotextile, a 3"-6" layer of dense graded aggregate, and finally a layer of #57 stone to provide a better driving surface for maintenance vehicles (Appendix C – Photos 4, 6, 9 and 10)

27. Page 15, 5th bullet – The content listed in this bullet needs to be verified by survey.

28. Page 15, 7th bullet- Poor surface drainage in the area contributes to this condition.

29. Page 15, last paragraph, last sentence - Please change this sentence to state the following: Although rock fill and crushed stone has been placed on the surface of the dam and some differential settlement has possibly occurred, the embankment appears to have performed as designed over the years.

30. Page 16, Ash Pond E, first bullet – The original design drawings supplied to O'Brien and Gere note that the area in question was a swamp prior to the dike construction. While under-seepage is certainly possible, the dikes in this area have been stable for over thirty years and the historical record shows swampy conditions prior to construction. We are of the opinion that under-seepage is not a major concern.

31. Page 16, Ash Pond E, 3rd bullet – Please change this bullet to state the following: The crest elevation of the embankment appears to vary along its length, which could be a result of differential settlement. In particular, observation of the freeboard indicates that the southwestern portion of the embankment may be lower than other sections.

32. Page 16, Ash Pond E, 4th bullet – Please change "draiving" to "driving"

33. Page 16, Ash Pond E, 4th bullet, last sentence – Please provide clarification for this sentence. We are unsure what this sentence means.

34. Page 17, Ash Pond E – last bullet in this section: While current (September 2008) regulations classify this dam a significant hazard due to Possum Point Road being below the dam, the VDCR is still evaluating the issue of roadways on or below the dam. Current guidance documents on the DCR website suggest a Significant classification but we understand this may change based on the type of road/traffic flow.

35. Page 18, Section 6.1, bullet 1- Please remove the last sentence in this section. There is not a need to draw down the reservoir; there is no evidence of instability.

36. Page 18, Section 6.1, Bullets 2, 3, and 4 – Plans are in progress

37. Page 18, Section 6.2, Ash Pond D, bullet 2 – Please remove the last sentence under this bullet. The condition has existed prior to construction of the dam and is monitored during annual inspections. We do not plan to install piezometers.

38. Page 19, Section 6.2, Ash Pond E, bullet 3, first sentence – Please change this sentence to state the following: The drainage ditch along the southwestern section of the embankment has resulted in a 3 to 4-foot deep cut beyond the toe of the dam (See Photo 3, Appendix C).

39. Page 19, Section 6.2, Ash Pond E, bullet 4 – The embankment has been in place for 42 years. We will perform a topographic survey and ultimately re-establish a uniform crest elevation. We see no need to install survey monuments and check settlement after 42 years. The embankment has settled as much as it will after this long under relatively constant loading conditions.

40. Page 19, Section 6.3 – Please correct this section to state the following: DVP should continue to inspect Ash Pond E on a quarterly basis by station personnel and annually by a registered engineer. While Ash Pond D is not as critical, it should also be monitored on the same frequency.

41. Page 19, Section 6.4, first sentence – Please change this sentence to state the following: It is O'Brien & Gere's recommendation that DVP initiate the hydraulic and stability analyses for Ash Pond E within the next 6 months.

42. Draft Figure 2 – Remove the Oil Treatment Pond, Ash Pond B, and Ash Pond A identifiers, these are not CCW Ponds.

43. Draft Figure 3 – Remove the Ash Pond A and Ash Pond B, these are not CCW Pond identifiers.

44. Draft Figure 4 - Remove the Ash Pond A and Ash Pond B, these are not CCW Pond identifiers.

45. Second Page of Coal Combustion Waste Impoundment inspection form, second paragraph, last sentence - Please change "6-feet" to "10-feet"

46. Coal Combustion Waste Impoundment inspection form, all throughout the form - Please change "Quantico Bay" to "Quantico Creek".

47. Page 4, Coal Combustion Waste Impoundment inspection form, Configuration: - for Liner Permeability, please fill in 1 X 10^-7 cm/sec.

48. Page 5, Coal Combustion Waste Impoundment inspection form, Type of Outlet: Please change "ramp" to "bridge".

49. Page 7, Coal Combustion Waste Impoundment inspection form - Please change the last paragraph to read as follows: Piezometers (PVC observation wells) have been installed at several locations along the downstream slope and at the toe of the slope. In addition, there are several surface monuments for monitoring crest elevations. Water levels in the piezometers are monitored annually. Crest elevations were monitored regularly until 1999 when monitoring was discontinued.

50. Second CCW inspection form - Page 2 – Please change "1/3" to "2/3"

51. Second CCW inspection form - Page 3– Please change "1/3" to "2/3"

52. Photographic Log, Photo 7 – The description in this picture is incorrect.

53. Appendix B – Please change " Photographs - Reid/HMPL Ash Pond" to Photographs – Ash Pond D"

54. Appendix C – Please change "Green Ash Pond" to "Ash Pond E"

55. Photographic Log, Photo 3 – The picture does not show the deep ditch very well.