Policy Position Regarding Coal Ash Issues,
Dominion Virginia Power Chesapeake Energy Center
Adopted by Board of Directors, July 18, 2016

It is our understanding that Virginia Department of Environmental Quality (DEQ) is requiring Dominion to evaluate alternatives to limit environmental impacts from coal ash after closure of its Chesapeake Energy Center's landfill and coal ash pond. In addition, Dominion is evaluating how best to address legacy coal ash that escaped into Deep Creek from the energy center in prior years.

Regarding alternatives for the landfill and coal ash pond:

1) **We recommend that removal of the coal ash from the landfill and bottom ash pond be seriously considered during the alternatives analysis, as the most likely alternative to protect the environmental health of the Elizabeth River;** while also evaluating economic factors and environmental risks associated with removal, such as transport emissions, fugitive dust and runoff risks.
2) In addition, Dominion has discussed with us **several other alternatives which we recommend also be fully explored**, to determine if they represent feasible approaches for minimizing impacts to the Elizabeth, including:
    a) A "slurry wall" made up of a concrete mixture that could be placed up to 60 feet deep around all portions of the site that present risks of groundwater transport of contaminants;
    b) Creation of a "permeable reactive barrier" or permeable wall that traps and treats the groundwater as it flows through;
    c) Consideration of pump and/or gate systems that help control the groundwater for containment or treatment;
    d) A combination of such approaches.
3) **Comprehensive long-term monitoring will be key** to protecting environmental health. We recommend that Dominion work with DEQ to continue and expand the groundwater monitoring program to ensure protection of the river. Careful monitoring is critical for understanding how geochemistry might change toxicity of contaminants in groundwater and its impact river life. Monitoring should include in-river monitoring for pour water and sediments, as well as groundwater and surface run or run off monitoring.
4) In addition to selection of the most effective alternative for limiting pollution impacts, we **recommend restoring native wildlife habitat where appropriate across the 232 acres of the closed energy center site on the Southern Branch.** The US Navy set an example nearby on Paradise Creek when it restored wetlands, native wildflower meadows and

warm season grasses to create a 70 acre "wildlife mecca" in conjunction with close out of its contaminated landfills.

a) Consider enhancement of the 50 plus acres of tidal wetlands located northwest of the landfill to improve tidal flow and reduce the presence of the invasive Common Reed (*Phragmites australis).*
b) If capping is the selected alternative, consider planting warm season grasses and native wildflowers on the cap to create a habitat corridor.

Regarding the legacy coal ash in the bottom of Deep Creek:

1) **We recommend strengthening the sampling plan** to better characterize the legacy coal ash spill and to define the horizontal and vertical extent of the impact to the Southern Branch of the Elizabeth River.
    a) The proposed fifteen 4-inch sediment cores that will go to a maximum depth of 20 feet mentioned in Section 3 of the JPA appears to be appropriate size and depth.
    b) During core sampling we recommend delineating areas of the core that show the presence of coal ash and collecting grab samples to better understand the levels of contamination of the coal ash.
    c) For grab samples that appear to have coal ash, analyze these samples separately rather than combining with other samples.
    d) Modify the JPA to include an "in the field" option to allow for expanding the sample area if there is evidence of ash outside the currently delineated area.
    e) Analyze for organic and inorganic contaminants in the river sediments.
    f) We also recommend that a determination be made for the metals concentrations in sediment pore water for samples with suspect buried ash. Changes in sediment chemistry after burial in the river may lead to increased bioavailability and higher toxicity to river life.
    g) Elizabeth River Project would like to review and comment on the sampling plan for the collection and analysis of the core samples before it is finalized.

2) **The industry standard would be to remedy the legacy coal ash with hydraulic dredging, de-watering and transfer off-site to an appropriately managed landfill.**
    a) While further data review is needed to be confirm this approach is appropriate for this site, such an approach is **recommended for serious consideration.**
    b) Following such removal, consider the addition of clean sand to help revitalize the benthic or bottom-dwelling aquatic life at the site. Consider enlisting Dr. Daniel Dauer, Old Dominion University, to document species abundance and diversity before and after the remediation.

Regarding DEQ draft permits:

1) **It appears to us that VA DEQ's draft permits address the site appropriately, given the limits of DEQ's authority.**
2) Dominion can exercise the right to propose more aggressive action than DEQ is able to require. Acting above and beyond the minimum required by law would be within the best tradition of the Elizabeth River Project's River Star Businesses program, in which Dominion has been a valued participant.