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Lawrence Mansueti
Permitting, Siting, and Analysis Division
Office of Electricity and Energy Reliability
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0119

Re: Supplemental Comments on the Department of Energy's Emergency Order To Resume Operation at Mirant's Potomac River Generating Station

Dear Mr. Mansueti:

The Institute for Public Representation, on behalf of the Anacostia Riverkeeper at Earth Conservation Corps, the Patuxent Riverkeeper, and the Potomac Riverkeeper, Inc., submits the following comments pursuant to the Department of Energy's (DOE's) February 17 Order for Rehearing Emergency Order 202-05-3. *District of Columbia Public Service Commission*, Docket No. EO-05-01, Order No. 202-06-01 (Dep't of Energy, Feb. 17, 2006).

Anacostia Riverkeeper, Patuxent Riverkeeper, and Potomac Riverkeeper, Inc. ("the Riverkeepers") are nonprofit corporations whose missions are to use action, advocacy, and enforcement to protect the Potomac, Patuxent, and Anacostia Rivers, respectively. The Institute for Public Representation (IPR) is a public interest law firm and clinical education program established at Georgetown University Law Center in 1971. Attorneys at IPR function as counsel for groups and individuals who are unable to obtain effective legal representation on matters including those involving the environment. IPR is representing the Riverkeepers in this and other legal matters. The Riverkeepers are concerned that operation of the Potomac River Generating Station (PRGS) in Alexandria, VA will continue to harm the public interest by degrading the Anacostia, Patuxent, and Potomac watersheds. The following comments supplement the February 21, 2006 comments filed by IPR on behalf of the Riverkeepers.

On August 19, 2005, the Virginia Department of Environmental Quality (VADEQ) notified Mirant that operation of the PRGS "cause[s] or substantially contribute[s] to *serious* violations of the primary national ambient air quality standards or 'NAAQS' for sulfur dioxide (SO_2), nitrogen oxides (NO_X) [sic] and PM_{10}" and asked Mirant to "*immediately* undertake such action as is necessary to ensure protection of human health and the environment, in the area surrounding the [PRGS]." Letter from Robert G. Burnley, VADEQ, to Lisa Johnson, President, Mirant Potomac River 1 (Aug. 19, 2005) *available at* http://ci.alexandria.va.us/tes/eq/va_letter.pdf (emphasis in original). In response, Mirant chose to shut down the PRGS instead of installing pollution control technology or altering its operating procedures. The same day that the PRGS shut down its generators, the D.C. Public Service Commission (DCPSC) filed a petition with DOE, asking DOE to order the PRGS to restart generation due to an electricity reliability emergency in the central Washington, D.C. area. Emergency Petition and Complaint of the District of Columbia Public Service Commission, Docket No. EL05-145-000 (Dep't of Energy, Aug. 24, 2005).

Four months later, the Secretary of Energy (the Secretary) agreed with DCPSC by finding that there was an emergency situation in the central Washington, D.C. area and issued Emergency Order 202-05-3, which ordered the PRGS to resume electricity generation. *District of Columbia Public Service Commission*, Order No. 202-05-3 (Dep't of Energy Docket No. EO-05-01) (Dec. 20, 2005). The Emergency Order was issued under the Federal Power Act (FPA) Section 202(c), which provides that "when the Commission determines that an emergency exists . . . the Commission shall have authority . . . to require by order such . . . generation . . . of electric energy as in its judgment will best meet the emergency *and serve the public interest*." FPA § 202(c); 16 U.S.C. § 824-a(c) (emphasis added). The Secretary acknowledged in the Emergency Order that operation of the PRGS will cause environmental degradation, (Order No. 202-05-3 at 5), but states that he attempted to harmonize electricity reliability with the environmental concerns to the extent "reasonable and feasible" and believes environmental regulators and Mirant can work together to "reduce, and perhaps eliminate, any conflict between environmental goals and electric reliability." Order No. 202-05-3 at 8-9. However, the Riverkeepers assert that the public interest is significantly harmed by any operation of the PRGS, especially given that operation of the PRGS will be unnecessary, as outlined below. The Riverkeepers request that the Secretary take the public interest in a healthy environment into account when reconsidering the Emergency Order.

Emissions from the PRGS will harm the public interest, in part, because they impair the health of the Anacostia, Patuxent, and Potomac rivers. Emissions from the PRGS include large amounts of sulfur dioxide (SO_2), nitrogen oxides (NO_X), and particulate matter (PM_{10} and $PM_{2.5}$). For example, Mirant's own modeling study shows that operation of the PRGS violates the 3-hour, 24-hour, and annual NAAQS for SO_2; the NAAQS for $PM_{2.5}$; and the NAAQS for NO_X. ENSR CORPORATION, A DISPERSION MODELING ANALYSIS OF DOWNWASH FROM MIRANT'S POTOMAC RIVER POWER PLANT: DOCUMENT NO. 10350-410, 5-1 & 5-2 (Aug., 2005) *available at* http://alexandriava.gov/link/redir.pxe?www.deq.virginia.gov/documents/mirantstudy.pdf. In addition, in 2004, the PRGS was cited with violation of the NAAQS for NO_X. The PRGS also is the largest source of fine particulate matter in Alexandria. Jonathan Levy, *Analysis of Particulate Matter Impacts for the City of Alexandria, Virginia*, Executive Summary *available at* http://alexandriava.gov/tes/eq/pdf/Particulate.pdf. These pollutants are emitted into the "airsheds" of the Anacostia, Patuxent, and Potomac Rivers and will eventually settle either on land, where they will be washed into the rivers, or directly onto the rivers themselves. The pollution from

the emissions contribute to acid rain and acid deposition in the region and exacerbate nitrogen pollution of local water bodies and the Chesapeake Bay.

The magnitude of the public interest in healthy aquatic and riparian ecosystems is demonstrated through membership in groups such as the Anacostia, Patuxent, and Potomac Riverkeepers. In addition, numerous state and federal government entities have demonstrated their interest in ensuring a healthy river network for the Chesapeake Bay. The U.S. Environmental Protection Agency, the Commonwealth of Virginia, the Commonwealth of Pennsylvania, the State of Maryland, and the District of Columbia are signatories to the Chesapeake Bay Agreement and have committed significant resources to improve the Bay watershed. *See* FINANCIAL ANALYSIS FOR THE RESTORATION OF THE CHESAPEAKE BAY IN MARYLAND: COST AND INCOME ESTIMATES AND ASSUMPTIONS USED TO DETERMINE MARYLAND'S COST TO IMPLEMENT CHESAPEAKE 2000, Executive Summary *available at* http://dnrweb.dnr.state.md.us/bay/res_protect/c2k/costs.asp (estimating that a clean Chesapeake Bay will cost the partners to Chesapeake 2000 approximately $18.7 billion); *see, e.g.* Press Release, Chesapeake Bay Foundation: [Virginia] Governor [Mark Warner] Pledges $257 million to Clean up the Bay (Dec. 14, 2005), http://www.cbf.org/site/News2?page=NewsArticle&id=13286&security=1&news_iv_ctrl=1081. Numerous other federal agencies, academic institutions, and public interest groups are partners in the effort to save the Bay. *See* The Chesapeake Bay Program: Bay Program Partners, http://www.chesapeakebay.net/program.htm. The public support for the program to clean up the Chesapeake Bay and its tributaries shows the vast public interest in promoting the health and cleanliness of local river systems that feed into the Chesapeake Bay, including the Anacostia, Patuxent, and Potomac Rivers.

The PRGS harms the public interest by emitting pollutants that are major precursors to acid rain and acid deposition. The PRGS emits considerable quantities of SO_2 and NO_X, which are the two major precursors to acid rain and fine particulate matter can also contribute to acidification of large rivers and riparian ecosystems. U.S. ENVIRONMENTAL PROTECTION AGENCY: ACID RAIN, http://www.epa.gov/airmarkets/acidrain/index.html#what. Gaseous SO_2 and NO_X readily react with water and oxygen in the atmosphere to form liquid sulfuric and nitric acids. These acids then either fall to the ground as precipitation or remain suspended in fog and humidity in the air. Unreacted SO_2 and NO_X settles out of the air onto the ground and vegetation, or directly into water bodies. In either case, the SO_2 and NO_X will eventually react with water and oxygen in the atmosphere to create a mild acid solution.

Acid rain and acid deposition are harmful, in part, because exposure to acid can significantly diminish the overall health of river and riparian ecosystems. Acid impairs the ability of fish and aquatic life to grow, reproduce, and survive and the ability of some types of trees to grow and resist disease. When acid rain falls on the land surrounding the rivers, it leaches aluminum from the soil, which is toxic at high concentrations. Both increased water acidity and aluminum levels are toxic to fish and can cause chronic stress, lower body weight, smaller size, and other competitive disadvantages. Furthermore, young animal species are generally even more sensitive to acid exposure, and around pH 5.0 fish eggs will simply not hatch. *See* U.S. ENVIRONMENTAL PROTECTION AGENCY, EFFECTS OF ACID RAIN: LAKES AND STREAMS, http://www.epa.gov/airmarkets/acidrain/effects/surfacewater.html.

In addition to harming the rivers themselves, acid rain is also detrimental to riparian ecosystems that are vital for the health of the Anacostia, Patuxent, and Potomac rivers. Acid rain and acid deposition can damage foliage, which weakens trees by decreasing their ability to photosynthesize. Further damage is caused when vegetation is consistently exposed to "acid fog" or "acid humidity." In addition, acid rain can wash away the nutrients and minerals that plants need to survive, while causing other toxins to be released into the soil. This combination of decrease in soil nutrients and increase in toxins, including aluminum, may harm trees and other plants. *See id.* The riparian areas may be further damaged by particulate matter emissions. The EPA has recently stated that particulate matter emissions "can and do alter the structure, function, diversity, and sustainability of complex ecosystems." U.S. ENVIRONMENTAL PROTECTION AGENCY, AIR QUALITY CRITERIA FOR PARTICULATE MATTER (Doc. No. EPA/600/P-99/002aF) ¶ 4.2.2 at 4-4 (Oct. 2004). Fine particulate matter affects riparian zones by causing "reductions in photosynthesis, changes in soil salinity, and foliar effects" (*id.* ¶ 4.2.3.1 at 4-62) and exposure to course particulate matter "may result in changes in radiation received, a rise in leaf temperature, and the blockage of stomata" (*id.* at 4-63). All of these effects on plant health will adversely affect the riparian areas around the Anacostia, Patuxent, and Potomac Rivers. Destruction of riparian vegetation can decrease food and habitat for animals living in the riparian zone and increase erosion, which contribute to siltation of the rivers.

In addition, nutrient levels in the Anacostia, Patuxent, and Potomac rivers as well as the Chesapeake Bay might be altered by operation of the PRGS. The U.S. Environmental Protection Agency (EPA) has found that NO_X is one of the largest sources of nitrogen pollution to the Chesapeake Bay (U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, *NO_X: How Nitrogen Oxides Affect the Way We Live and Breathe* 3 (1998) *available at* http://www.epa.gov/oar/noxfldr.pdf)) and fine particulate matter can also alter nutrient levels in coastal waters and large river systems, such as the Anacostia, Patuxent, and Potomac Rivers. Increases in NO_X and particulate matter emissions from the PRGS will increase nitrogen pollution to these rivers, and exacerbate already dire nutrient-loading problems in the Chesapeake Bay, which is fed by the Anacostia, Patuxent, and Potomac Rivers. *See* U.S. GEOLOGICAL SURVEY CHESAPEAKE BAY ACTIVITIES: WATER – NUTRIENTS, http://chesapeake.usgs.gov/nutrients.html; *see also* U.S. ENVIRONMENTAL PROTECTION AGENCY, CLEAN AIR INTERSTATE RULE PREAMBLE 752 (estimating that atmospheric deposition accounts for fifteen to thirty percent of the nitrogen loading in most U.S. estuaries). Nitrogen pollution harms aquatic ecosystems by upsetting the chemical balance of nutrients used by aquatic plants and animals. At higher levels, nitrogen accelerates eutrophication of water bodies, which leads to oxygen depletion and thus reduces fish and shellfish populations. *See* U.S. ENVIRONMENTAL PROTECTION AGENCY: NUTRIENT POLLUTION OF COASTAL RIVERS, BAYS, AND SEAS, http://www.epa.gov/watertrain/step7abstr.html. There is additional public interest in maintaining a healthy river network because of the thousands of jobs it provides to workers in the fishing and shellfishing industries. *See* Linda Darrell, *et al.*, Nutrient and Suspended-Sediment Concentrations, Trends, Loads, and Yields from the Nontidal Part of the Susquehanna, Potomac, Patuxent, and Choptank Rivers, 1985-96 (U.S. Geological Survey Water-Resource Report 98-4177); *see also* National Oceanic and Atmospheric Association, Habitat Connections: Wetlands, Fisheries, and Economics (estimating that in 1995 the "dockside value" of commercial fisheries was more than $60 million in Maryland and more than $113 million in Virginia).

Not only do the harms to the Anacostia, Patuxent, and Potomac rivers weigh against continued operation of the PRGS, but the public interest in electricity generation from the PRGS will be further decreased by construction of several new transmission lines. The DCPSC has recently approved construction of two new transmission lines to serve the central Washington, D.C. area and transmission lines that will transfer the Blue Plains Waste Treatment Center to a different substation. Pepco and PJM have testified that once they construct two 230kV transmission lines to serve the central D.C. area and transfer the Blue Plains waste treatment facility to a different electricity substation, "would satisfy both the short and long term reliability and security needs of the District even in the absence of generation from the Potomac River Plant." *Formal Case 1044*, Testimony of PJM Interconnection Witness Robert Hinkel, (Fed. Energy Reg. Comm'n, Jan. 11, 2006) *available at* http://www.dcpsc.org/pdf_files/edocket/upload/PJM01_1112006_1730_7_20060111-PJM-6.pdf. Because Pepco and PJM are actively addressing their electricity reliability problems, the public interest in generation at the PRGS is further diminished. It is the Riverkeepers' position that any operation of the PRGS after the completion of the new transmission lines would be unjustified.

In addition, the Federal Aviation Administration (FAA) has recently determined Mirant's proposal to increase the height of the smokestacks at the PRGS will not create a hazard for air navigation. Federal Aviation Administration Air Traffic Airspace Branch, Determination of No Hazard to Air Navigation (Feb. 26, 2006) (based on Aeronautical Study 2005-AEA-2958-OE) *available at* https://www.oeaaa.faa.gov/oeaaaEXT/letterViewer.jsp?letterContentID=441411. However, the Secretary should not consider the increased height of the PRGS's smokestacks as a mitigating factor against environmental degradation to the Anacostia, Patuxent, and Potomac rivers because it will not reduce the total amount of pollutants emitted, and the majority of the emissions will still fall within the Anacostia, Patuxent, and Potomac watersheds.

Thank you for inviting these comments on issues that were raised in the requests for rehearing of DOE's December 20, 2005 Emergency Order. The Riverkeepers request that DOE consider these comments, as well as the comments they filed on February 21, 2005, when evaluating whether continuing operation of the PRGS is in the public interest. Please feel free to contact us, if you have any questions about the comments contained in this letter.

Sincerely,
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