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Anthony J. Como
SEA Document Manager
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

**Re: Comments on Department of Energy's Special Environmental Analysis Regarding
Operation of the Potomac River Generating Station in Alexandria, VA**

Dear Mr. Como:

The Institute for Public Representation, on behalf of the Potomac Riverkeeper, Inc., the Patuxent Riverkeeper, and the Anacostia Riverkeeper at Earth Conservation Corps, submits the following comments on the Department of Energy's November 2006 Special Environmental Analysis ("SEA"). Notice of Availability of a Special Environmental Analysis; Potomac River Generating System, 71 Fed. Reg. 69102 (Nov. 29, 2006). These comments are submitted, in particular, in response to DOE's request for suggestions on how to respond when Emergency Order 202-05-3 expires on February 1, 2007.

Potomac Riverkeeper, Inc., Patuxent Riverkeeper, and Anacostia Riverkeeper ("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 represents the Riverkeepers in this and other legal matters.

The Riverkeepers are primarily concerned that the emissions from Mirant's Potomac River Generating Station ("PRGS" or "plant") adversely affect the water quality of the rivers in the surrounding areas. Additionally, the plant's operation hampers the ability of the community to

enjoy and recreate near the Potomac River. Residents of the DC area regularly recreate along the Potomac River near the plant, where there are bicycle and jogging paths, public park lands, and popular gathering places. The plant's emissions endanger the environment and everyone living or working in the area, especially individuals exercising to improve their health and physical fitness. *See* SEA at 82.

The PRGS emits large amounts of fine particulate matter ("PM_{2.5}"). *See* SEA at S-2 and 71. Individuals exposed to PM_{2.5} can suffer a variety of adverse health effects, including "irritation of the airways, coughing," "difficulty breathing, decreased lung function," "development of chronic bronchitis, irregular heartbeat," and "premature death." Children, the sick, and the elderly are most at risk for health complications when exposed to particulate matter pollution from the Mirant plant. *See* SEA at 108-109.

In addition to endangering public health, PM_{2.5} emissions adversely affect water quality. Particulate matter that settles into surface water can make rivers acidic; change the nutrient balance in coastal waters and large river basins, such as the Potomac, Patuxent, and Anacostia rivers; deplete nutrients in the soil; damage sensitive riparian areas; and affect the biodiversity of river ecosystems. The majority of PM_{2.5} from the plant falls within four miles of the facility, which is entirely within the Potomac River basin. Jonathon Levy, *Analysis of Particulate Matter Impacts for the City of Alexandria, Virginia*, Executive Summary available at <http://alexandria.gov/tes/eq/pdf/Particulate.pdf>.

The PRGS also emits large amounts of sulfur dioxide, a major precursor to acid rain. *See* SEA at S-6 and 4. Gaseous sulfur dioxide readily reacts with water and oxygen in the atmosphere to form liquid sulfuric and nitric acids, which fall to the ground as precipitation or remain suspended in fog and humidity in the air. Sulfur dioxide that has not yet reacted with water or oxygen settles out of the air onto land, vegetation, and water bodies, where it will eventually react with water and oxygen to create a mild acid solution, which can impair 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.

Furthermore, when acid rain falls on soil surrounding rivers, it leaches aluminum from the soil; this aluminum is toxic at high concentrations. Both increased water acidity and aluminum levels are toxic to fish and cause chronic stress on fish, decreased body weight, smaller size, and other competitive disadvantages. Young fish are generally especially sensitive to acid exposure, and around pH 5.0 fish eggs will simply not hatch. *See* U.S. EPA, EFFECTS OF ACID RAIN: LAKES AND STREAMS, <http://www.epa.gov/airmarkets/acidrain/effects/surfacewater.html>.

The Riverkeepers appreciate that DOE has recognized the plant's harmful public health effects and adverse environmental impacts on the Potomac, Patuxent, and Anacostia rivers. The Riverkeepers are also pleased that DOE stated in its Federal Register notice that "[PEPCO's] installation of two additional 230kV electric transmission lines to the Central Washington, DC area (expected in June 2007) . . . appear to eliminate the emergency that led to the issuance of the December 20, 2005 Emergency Order." Notice of Availability of a Special Environmental Analysis; Potomac River Generating System, 71 Fed. Reg. 69102 (Nov. 29, 2006). The Riverkeepers urge DOE to find now that the PRGS will not be needed when the two new 230kV

transmission lines are operational. Soon, four transmission lines will supply the DC area with electricity, relieving the District's electrical reliability problem and its need for the outdated Mirant plant.

The Riverkeepers urge DOE to allow the Emergency Order to expire on February 1, 2007, because the plant's environmental harms cannot be mitigated adequately. The plant's emissions are extremely harmful to the water bodies in the surrounding area and cause Virginia to violate National Ambient Air Quality Standards ("NAAQS"). Furthermore, DOE underscored the health risks to which the plant's neighboring residents are exposed by suggesting as a mitigation measure the possibility that Mirant pay to relocate individuals during periods of NAAQS exceedances. *See* SEA at 111. The severity of this suggestion emphasizes the dangers presented by the plant's continued operation.

If DOE decides to extend the Order, however, the Riverkeepers ask that DOE do so with mitigation measures and offer the following suggestions and comments.

Trona

The Riverkeepers ask that DOE carefully look into increasing the use of trona to reduce sulfur dioxide emissions, as sulfur dioxide pollution can lead to acid rain, which significantly diminishes the overall health of rivers and riparian ecosystems. However, the trona must be stored in an environmentally responsible manner, so that trona and trona dust is not released into the environment. Trona has considerable solubility and mobility in water, interacts with acid, and can be toxic to river species at certain levels and trona stockpiles must be maintained so as not to be eroded by wind and rain. We ask that DOE ensure that increased use of trona would not damage water quality.

DOE mentioned in its SEA that Mirant may have logistical trouble storing enough trona at the PRGS to reduce significantly its sulfur dioxide emissions. *See* SEA at 109-10. Given the significant harms sulfur dioxide can cause and the sulfur dioxide reduction trona can effectuate, the Riverkeepers ask that DOE work with Mirant to develop a plan for trona storage to ensure that sufficient trona will be stored at the facility. Given that the plant's operation is only necessary until the new transmission lines are operational, perhaps more options are available for a satisfactory storage arrangement, knowing that the need would only be temporary.

Because trona also has the potential to cause skin, eye, nose, throat, and lung irritations in workers exposed to it, Solvay Chemicals, Material Safety Data Sheet *available at* <http://www.solvaychemicals.us/static/wma/pdf/8/7/9/0/Trona.pdf>, the Riverkeepers also ask that DOE determine which respiratory safety products would adequately protect workers exposed to trona and trona dust, and then require Mirant to outfit workers with appropriate protective devices.

Notify the Public

The Riverkeepers request that DOE require Mirant to notify the public of potential NAAQS exceedances on DOE and FERC websites, as well as through local newspapers, public access

television channels, and e-mail alerts. Published and broadcasted notices of expected or potential NAAQS exceedances at the plant would be cost-effective means to keep local residents and would-be recreators informed about the plant's negative environmental and health impacts so that they may protect themselves and their families from pollution dangers. The Riverkeepers suggest, for example, that DOE require Mirant to establish an e-mail system to alert members of the community who sign-up to receive messages. Printing and broadcasting notices in a number of different information sources would help to ensure that all segments of the public are informed of potential dangers from the plant, and that they have the opportunity to plan their outdoor activities accordingly.

Similarly, the Riverkeepers ask that DOE require Mirant to establish a warning siren or some other warning system to alert the community when actual NAAQS exceedances occur, when the plant's emissions may be particularly dangerous to public health. Such a warning system would allow local residents and those recreating in the area to take actions that may help them avoid adverse health effects related to sulfur dioxide and particulate matter exposure. It is particularly important that Mirant notify children, the sick, and the elderly, as well as their caregivers, of all NAAQS exceedances.

Reduce Electrical Demand

The Riverkeepers support an overall plan to reduce electrical demand in the DC area, as this would help eliminate the need for the Mirant plant's continued operation. In particular, the Riverkeepers support DOE's proposal to require that the DC Public Service Commission develop a plan for reducing electrical demand in the central DC area. *See* SEA at 112. We understand that the rule-making procedures and infrastructure changes required for such a process would be time-consuming and would probably not allow for a plan to be exercised before the two new 230kV transmission lines are operational. Nonetheless, a diminished electrical demand would reduce the potential need for future emergency orders and would protect the air, rivers, and public health over the long-term.

DOE also proposes to encourage federal agencies in the central DC area to develop independent generating capabilities, and to require the installation of back-up electricity generating equipment at certain central DC facilities or government agencies. The Riverkeepers would support this as well, so long as DOE ensured that these generators would not be harmful to the environment or emit more pollutants than the Mirant plant.

Reduce Power Generation

The Riverkeepers ask that DOE require Mirant, during non-outage circumstances, to operate the plant at the minimum level of power generation that would maintain all units in a state in which they could produce full power within several hours of a transmission line outage. DOE proposed this mitigation measure and stated that it had considered such an operating mode before issuing the Emergency Order, but dismissed the idea as infeasible because "the baseload units at the Plant are designed for operation at high power levels and cannot sustain low levels of operation for a long period of time without damage." *See* SEA at 110.

The Riverkeepers request that DOE further consider this alternative mitigation measure because the claim that the PRGS cannot operate at lower levels without damaging its machinery is contradicted by the fact that the plant now operates on an 8-8-8 cycle, during which boilers operate at low levels for eight hours each day. *See* SEA at 54 and 65. Surely, a machine's being turned on and off and its power level adjusted up and down must be more of a strain than would be its being set at a lower output for a more extended time period. Moreover, a determination that the plant cannot operate at lower levels or for shorter periods, even after additional consideration, would further show that the PRGS is outdated and should no longer operate, especially once the two new transmission lines are operational.

Reconsider Possible Effects of Emergency Order's Expiring

The Riverkeepers urge DOE to consider additional possible outcomes of the Emergency Order's expiring. After consulting with the Council on Environmental Quality ("CEQ") to determine the scope of the alternative analysis required under the emergency situation pursuant to 40 C.F.R. 1506.11, DOE stated that it would "examine the potential impacts resulting from issuance of the Order and describe further DOE decision-making regarding reasonable future alternatives." *See* SEA at 10-11. DOE considered the potential impact of blackouts, which there is a risk of if the agency allows the Emergency Order to expire without extension. It is likely, however, that the plant would continue to run once the order expires, but before the new transmission lines are in place. As DOE explained in the SEA, the PRGS must comply with the Administrative Consent Order of June 1, 2006 and is only allowed NAAQS exceedances under the emergency order when there is a transmission line outage. SEA S-4 to S-5. Although DOE said it could not speculate as to how Mirant would operate once the emergency order expired, it did not thoroughly examine the likelihood of blackouts occurring if the Mirant plant continued to operate in the manner currently allowed during "non-line outage situations." *See id.*

Exhaust Stacks

Finally, the Riverkeepers urge DOE not to require Mirant to increase the height of the plant's five exhaust stacks. *See* SEA at 110. The Riverkeepers do not support this suggestion, which will not solve the plant's pollution or NAAQS exceedance problems and will instead only push the pollution into an environment further from the plant, where it will negatively impact air quality, water quality, and human health and welfare. The Riverkeepers strongly suggest that DOE remove this option from consideration because it will not reduce the total amount of pollutants emitted, and the majority of the emissions will continue to fall within the Potomac, Patuxent, Anacostia, and Chesapeake Bay watersheds.

