

EXhibit 16

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

SUBJECT: Basis of Proposed Nitrogen Limits for the Blue Plains WWTP 2/15/07

FROM: Robert Koroncai, Associate Division Director
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Water Protection Division

TO: File

EPA published "Ambient Water Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll *a* for the Chesapeake Bay and its Tidal Tributaries" ("EPA Bay Criteria Guidance") in April 2003. This guidance document describes refined aquatic life uses appropriate for the Bay tidal waters and sets forth numeric criteria for dissolved oxygen and water clarity, and narrative criteria for chlorophyll *a*, sufficiently protective to restore and maintain each and every refined tidal aquatic life use. The EPA Bay Criteria Guidance also served as the regional nutrient guidance applicable to the Chesapeake Bay and its tidal tributaries. Finally, EPA developed the Bay Criteria Guidance in accordance with Section 117(b) of the CWA and implementing the *Chesapeake 2000* agreement signed by the Administrator of EPA, the Mayor of the District of Columbia, the governors of Maryland, Pennsylvania and Virginia, and the chair of the Chesapeake Bay Commission. The states of Maryland, Virginia, Delaware and the District of Columbia subsequently adopted changes to their water quality criteria and refined aquatic life uses for tidal Chesapeake Bay waters that EPA has approved as consistent with the EPA Bay Criteria Guidance.

Based upon the EPA Bay criteria, and in order to restore the refined aquatic life uses of the Bay, EPA and the Bay states established allocations of the pollutants nitrogen, phosphorus and sediment for each of the major basins with those allocations subdivided for each state with jurisdiction over that basin. Those allocations are known as "cap loadings." The Bay partners established the cap loadings as described in the April 28, 2003 memorandum from Tayloe Murphy to the Bay Principals' Staff Committee. Each state was then charged with the development of tributary strategies to achieve their respective cap loading allocations. For purposes of this memo, the focus is on the allocation of nitrogen cap loads.

The Blue Plains facility provides wastewater treatment for a service area that includes the District of Columbia, Maryland, and Virginia. Each of these jurisdictions provides a proportional share of their respective nitrogen cap loading to the Blue Plains facility. Both Maryland and Virginia adopted tributary strategies that once fully implemented are sufficient to achieve their nitrogen cap load based on EPA's evaluation using the Chesapeake Bay Program



Water Quality Model.¹ Both Maryland and Virginia allocated in their tributary strategy a proportional share of the respective nitrogen cap load for the Potomac River to the Blue Plains facility discharge. However, the District of Columbia adopted a tributary strategy that EPA determined (again through use of the Chesapeake Bay Program Water Quality Model) was not sufficient to achieve the nitrogen cap loading allocation for D.C. EPA further determined that the allocation for Blue Plains set forth in the District's tributary strategy was inappropriate and insufficient for establishing the nitrogen effluent limit for the D.C. portion of the Blue Plains wastewater treatment plant. Since the DC tributary strategy was not sufficient to achieve the assigned nitrogen allocation for the District, it was necessary for EPA to recalculate the appropriate allocation for the District's contribution to Blue Plains consistent with the Bay Program nitrogen cap loading to the District. See Tayloe Murphy allocation memorandum (attached) and discussion below.

In the summer of 2006 Maryland further refined its nutrient allocations by making small (reductions to the nitrogen allocation for Blue Plains, and providing those allocated loads to another wastewater treatment plant. See e-mail from Ed Stone (Md) to Bob Koroncai, 6/20/2006, copy attached. This reallocation by Maryland thus modifies the original tributary strategy and is reflected in the calculations below.

Therefore, in June 2006 EPA determined the appropriate effluent limits for Blue Plains based on the total of the allocated nitrogen loadings for the Blue Plains facility from: the allocation for Blue Plains facility from the Maryland tributary strategy (modified as discussed above in 2006); the allocation for Blue Plains from the Virginia tributary strategies; and the EPA-recalculated allowable nitrogen loading for the DC portion of the Blue Plains wastewater treatment plant. This combined allowable loading from the three jurisdictions yields the total allowable nitrogen loading for the entire Blue Plains facility that, along with controls for other sources, is necessary to achieve the relative cap loading for each jurisdiction. The calculations for deriving the Blue Plains nitrogen allocation are provided below:

- a. Total nitrogen allocation to the District of Columbia: 2.4 million pounds/year
- b. Total nitrogen load allocation to non-point sources (DC): 280,000 pounds/year
- c. Total nitrogen load allocated to CSO's (DC after implementation of the LTCP): 5,300 pounds/year
- d. EPA recalculation of total nitrogen load allocated to Blue Plains (DC): 2,115,000 pounds/year (a - b - c, above)
- e. Total nitrogen load allocated to Blue Plains (MD): 1,993,000 pounds/year
- f. Total nitrogen load allocated to Blue Plains (VA): 581,000 pounds/year
- g. Total Blue Plains allocated load 4,689,000 pounds/year total nitrogen (d + e + f , above)
- h. Total Blue Plains concentration equivalent: 4.2 mg/l ($'g'/8.34/365(\text{days/year})/370(\text{MGD})$)

References:

1. Memorandum from Tayloe Murphy to the Principals' Staff Committee (give date, etc.
2. Personal communication with Ning Zhou, EPA CBPO, based on DC tributary strategy
3. Email from Ed Stone (Md) to Bob Koroncai, 6/20/2006
4. DC Trib strategy
5. February 16, 2006 letter to DC Department of Health from EPA Region III, approving

¹ The Chesapeake Bay Program maintains the modeling input dec results.

revisions to the DC water quality standards, including revisions to conform to the Bay criteria.

6. Same for VA WQS revisions -9VAC 25-720-50-C Water Quality Management Planning Regulation
7. VA Trib strategy and any relevant revisions
8. MD WQS revisions
9. MD trib strategy and relevant revisions