National Association of Clean Water Agencies
2008 Law Seminar

Nutrient Control and CSO Compliance Challenges

Avis Marie Russell
General Counsel

November 12, 2008

District of Columbia Water and Sewer Authority

- Largest advanced wastewater treatment plant in the world
- Serves the District, Montgomery County, Prince Georges County, Fairfax County, and Loudoun County
- Dry weather capacity of 370 MGD (annual average) and peak wet weather capacity of 1076 MGD
- Two outfalls – one for flows receiving complete treatment (002), and one for wet weather flows receiving primary treatment and disinfection (001)
- Outfall 001 is authorized as a CSO bypass

Chesapeake Bay Watershed

Chesapeake Bay Program
A Watershed Partnership

Data Sources: Chesapeake Bay Program

For more information, visit *www.chesapeakebay.net*
Disclaimer: *www.chesapeakebay.net/termsofuse.htm*

Chesapeake Bay Program – About the Bay

- Chesapeake Bay is an estuary, a body of water where fresh and salt water mix
- The largest of 130 estuaries in the United States
- Is about 200 miles long, stretching from Harve de Grace, Maryland, to Virginia Beach, Virginia
- The Bay's watershed drains from 64,000 square-miles
- The Bay's watershed includes six states, Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia and the District of Columbia
- The Bay's watershed is home to over 16.6 million people
- There are about 150 major rivers and streams in the Bay's watershed

Chesapeake Bay Program – Nutrient Reduction Goals

- 1987 Chesapeake Bay Agreement
  - Signed by: Commonwealth of Virginia, State of Maryland, Commonwealth of Pennsylvania, United States of America, District of Columbia, and the Chesapeake Bay Commission
  - Established a plan to develop, adopt and begin implementation of a basin-wide goal and strategy to equitably achieve by the year 2000 at least a 40% reduction of nitrogen and phosphorus entering the main stem of the Chesapeake Bay

Chesapeake Bay Program – Nutrient Reduction Goals - cont'd

- 2000 Chesapeake Bay Agreement
  - Signed by: Commonwealth of Virginia, State of Maryland, Commonwealth of Pennsylvania, United States of America, District of Columbia, and the Chesapeake Bay Commission
  - Agreed to continue efforts to achieve the 40% nutrient reduction goal agreed to in 1987
  - By 2010, correct the nutrient- and sediment-related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay from the list of impaired waters

Chesapeake Bay Program – Nutrient Reduction Goals - cont'd

- 2000 Memorandum of Understanding
  - Signed by representatives of signatories of 2000 Agreement and the State of Delaware, State of New York, and State of West Virginia
  - Agreed to work cooperatively to achieve the nutrient and sediment reduction targets that they agreed are necessary to achieve the goals of a clean Chesapeake Bay by 2010

Chesapeake Bay Program – Nutrient Reduction Allocations

- April 2003 - Chesapeake Bay Program Principals' Staff Committee issued its Summary of Decisions regarding Nutrient and Sediment Load Allocations for the jurisdictions of Pennsylvania, Maryland, Virginia, District of Columbia, New York, Delaware, and West Virginia
- December 2003 - Chesapeake Executive Council endorsed the allocations as agreed by the Principals' Staff Committee

WASA's Voluntary Nitrogen Reduction Initiatives

- WASA has been a leader in the Chesapeake Bay Program's nutrient reduction initiative
- Among the first and one of the few municipalities in the Chesapeake Bay watershed to have achieved the Program's 40 % nutrient reduction goal by the 2000 deadline

April 2007 NPDES Permit Amendment

- Added an annual limit of 4,689,000 pounds of total nitrogen as a “hard’ cap.
- The limit is based on the Chesapeake Bay Program allocation process that first established a total nitrogen load for entire Chesapeake Bay watershed and then allocated the load among the states in the watershed. The states then allocated their loads to individual tributaries and then to individual point source discharges.
- Although the bay-wide nutrient loads were based on extensive scientific research, the process of allocating the loads among the states and tributaries was largely political in nature.
- The nitrogen limit is the total of the allocations assigned to the capacity reserved to the jurisdictions served by Blue Plains (the District, Montgomery County, Prince Georges County, Fairfax County, and Loudoun County).

WASA's Total Nitrogen/Wet Weather Plan

- In anticipation of the nitrogen limit, WASA began developing a Total Nitrogen/Wet Weather Plan in 2005 to integrate the CSO control facilities in its LTCP with the facilities needed to meet the nitrogen limit.
- The plan evaluated a range of alternatives for cost-effectively achieving compliance with the nitrogen limit while maintaining compliance with WASA's LTCP obligations.

WASA's Long-Term Control Plan and Consent Decree

- The LTCP as currently approved calls for limited sewer separation, using full peak wet weather treatment capacity at Blue Plains, a system of three storage tunnels (one each for the Anacostia and Potomac rivers and Rock Creek), and dewatering of the tunnels within 59 hours.
- March 25, 2005 consent decree established a 20-year LTCP implementation schedule.

Major Issues Associated with the Nitrogen Limit - Does the limit reflect a fair allocation for Blue Plains?

- Issue concerns nitrogen allocation between the District and Pennsylvania's Susquehanna River Basin:
  - In the course of establishing the principles that would guide the allocation process, the Bay Program recognized that pound-for-pound, nitrogen reductions in the Susquehanna River Basin would achieve greater water quality benefits for the Bay than nitrogen reductions from Blue Plains.
  - WASA believes the Bay Program ignored this guiding principle and developed allocations that called for larger nitrogen reductions by Blue Plains than by dischargers to the Susquehanna River.
  - EPA incorporated the allocation into WASA's permit as a limit.

WASA's Total Nitrogen/Wet Weather Plan

- There are three major elements of the plan that WASA selected and proposed to EPA:
  - Re-configuring several major CSO control projects in the LTCP to provide for treatment of larger volumes of wet weather flows through the wet weather treatment train followed by discharge from Outfall 001.
  - Installing limit-of-technology for nitrogen control on the complete treatment train and reducing minimum peak wet weather flow requirements for flows receiving complete treatment followed by discharge from Outfall 002.
  - Assigning a portion of the limit to Outfall 001 and applying the load cap to average rainfall conditions rather than all rainfall conditions.

Major Issues Associated with the Nitrogen Limit - Should the "hard" nitrogen cap be applied to Blue Plains' wet weather outfall?

- The limit is a "hard" cap, meaning it is expressed as a limit on the mass load of nitrogen that can be discharged on an annual basis.
- EPA's position that the limit should be a hard cap on both outfalls exposes WASA to non-compliance during years of above average rainfall.

Major Issues Associated with the Nitrogen Limit - Should the "hard" nitrogen cap be applied to Blue Plains' wet weather outfall?

- WASA's position is that the limit should be a hard cap under all weather conditions only on Outfall 002 (complete treatment) and a hard cap based on average rainfall on Outfall 001 (wet weather treatment). In other words, nitrogen loads discharged from Outfall 001 resulting from annual rainfall exceeding average annual rainfall amounts would not be counted against the cap on Outfall 001.
- This issue remains unresolved and likely will be a major issue during the permit re-issuance process.

Current Status and Next Steps

- WASA appealed the April 2007 permit amendment to EPA's Environmental Appeals Board (EAB) challenging both the nitrogen limit and EPA's refusal to include in the permit a schedule to achieve compliance with the limit.
- The appeal was consolidated with other appeals, and in March of this year, the EAB refused to review the limit, but remanded the permit to EPA with instructions to include a compliance schedule in the permit.
- WASA has appealed the limit to the court of appeals, but EPA has moved to dismiss the appeal, asserting that the EAB's decision is not final agency action until EPA modifies and re-issues the appeal on remand. We are waiting for a decision on EPA's motion.

Current Status and Next Steps - cont'd

- EPA has advised WASA that the permit will be proposed for re-issuance in late 2008 or early 2009.
- In the meantime, WASA faces several deadlines in its LTCP consent decree that could be affected by the outcome of the permit re-issuance process.

Contact Information:

Avis Marie Russell
General Counsel
District of Columbia Water and Sewer Authority
(202)-787-2240
arussell@dcwasa.com