



# **DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY**

5000 OVERLOOK AVENUE, S.W., WASHINGTON, D.C. 20032

October 3, 2006

Ms. Mary Letzkus  
Office of Watersheds (3WP41)  
U.S. Environmental Protection Agency  
Region III  
1650 Arch Street  
Philadelphia, PA 19103

Re: Proposed Modifications to Blue Plains NPDES Permit

Dear Ms. Letzkus:

The District of Columbia Water and Sewer Authority (WASA) appreciates the opportunity to submit these comments on the proposed modification to the NPDES permit for its Blue Plains advanced wastewater treatment plant.

The proposed modification consists of (1) revisions to the total nitrogen effluent goal, the addition of an interim total nitrogen annual mass loading effluent limit, and a schedule for developing and submitting an action plan and schedule to comply with Blue Plains' final total nitrogen waste load allocation, and (2) revisions to the Phase II CSO conditions that were added to the permit when the permit was modified on December 16, 2004. These comments first address the proposed nitrogen-related modifications and then the proposed Phase II-related modifications.

## **I. PROPOSED NITROGEN-RELATED MODIFICATIONS**

### **A. Background**

WASA has been a leader in the Chesapeake Bay Program's efforts to achieve voluntary reductions in the discharge of nitrogen to the Chesapeake Bay watershed. WASA was one of the first municipal wastewater treatment plant operators in the Bay watershed to significantly reduce its discharge of nitrogen, and one of the few to achieve the Chesapeake Bay Program's 40 percent nutrient reduction goal by the December 31, 2000 target date. Since 1996, WASA has removed over 238 million pounds of nitrogen from the Blue Plains effluent at a total cost of over \$57 million.<sup>1</sup>

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<sup>1</sup> The Chesapeake Bay Program's nutrient reduction goals and standards include phosphorus in addition to nitrogen. Phosphorus is not an issue in the proposed modification because WASA has for many years consistently achieved phosphorus reductions greater than those required by the stringent limit in its permit.

These reductions have been achieved through an aggressive initiative that utilizes excess nitrification system treatment capacity in the Blue Plains plant and the addition of methanol. Although Blue Plains is rated at a design flow capacity of 370 MGD, at present, it has the capacity to provide complete treatment to peak wet weather flows at rates of up to 511 MGD for periods of four hours or less and up to 450 MGD for periods longer than four hours.<sup>2</sup> This wet weather treatment capacity is used to treat high flows from the service area during and following periods of wet weather. While this additional treatment capacity is a critical element of WASA's present and future combined sewer overflow (CSO) control program, it also provides an opportunity to remove nitrogen when the capacity is not needed to treat combined sewer flow or to meet existing permit limits.<sup>3</sup> Additionally, the permit requires WASA to maximize flow to complete treatment. This requires use of complete treatment under wet weather conditions to treat in excess of the 370 mgd of annual average design flow whenever capacity may be available, and to the extent that permit limits for Outfall 002 are not exceeded.

WASA voluntarily took advantage of this opportunity in 1996 when, in cooperation with EPA, it installed demonstration facilities for the addition of methanol, which serves as a carbon source required for nitrogen removal. The total cost of these facilities was approximately \$20 million. After a period of testing and evaluation, WASA began full scale operation of the facilities and soon began achieving significant reductions in the concentrations of nitrogen in the Blue Plains' effluent. Following completion of the methanol facilities, WASA initiated planning for additional improvements to the existing reactors and sedimentation tanks used for nitrogen removal. These internal improvements, which are scheduled for construction between 2007 and 2011, are necessary to maintain the current BNR capability and are estimated to cost more than \$86 million.

In 2004, EPA added a total nitrogen goal of 8,467,200 pounds per year to the Blue Plains permit. This goal was intended to reflect the plant's capability to remove nitrogen utilizing excess nitrification system treatment capacity and methanol addition to the extent that it would not prevent WASA from meeting its permit conditions.<sup>4</sup> Although this goal is not an enforceable limit, WASA has met it in every year since it was established through a combination of reduced peak wet weather flows to complete treatment, favorable climatic conditions, reduced pumping to the plant because the pumping stations were under rehabilitation, and the extraordinary efforts of the Blue Plains operators and their exceptional ability to maximize the plant's nitrogen removal capability while fulfilling WASA's wet weather flow treatment and other permit requirements.

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<sup>2</sup> These are the flow rates in the current permit and reflect Blue Plains' reduced peak flow treatment capacity during the extensive plant renovations and upgrades that have been underway and are estimated to continue until the end of 2010. The proposed modification fails to account for the fact that under the terms of the permit, the peak flow treatment limits will automatically increase to 740 MGD for periods of four hours or less and 511 MGD for periods greater than four hours. *See*, Permit at part I.B(1b)c. As explained below, this increase in the excess flow treatment limits would have a significant adverse impact on WASA's ability to meet the proposed interim nitrogen limit.

<sup>3</sup> Blue Plains' peak flow treatment capacity is in addition to its 336 MGD of excess flow treatment capacity which includes primary treatment followed by chlorination and de-chlorination prior to discharge through Outfall 001.

<sup>4</sup> This goal represents a 40 percent nitrogen reduction from 1985 levels with the qualification that achieving the goal will not interfere with WASA's ability to meet the requirements of its permit.

The critical point in this discussion is that other than a limited system to store and add methanol, Blue Plains does not have facilities that are designed to reliably remove nitrogen under all operating conditions. WASA's reliance on excess nitrification system treatment capacity and the capacity reserved to treat wet weather flows and to meet its existing permit requirements means that WASA's ability to control the discharge of nitrogen is highly dependent on weather and the volume and rate of flow for which it is required to provide complete treatment. As WASA has explained in earlier submittals to EPA<sup>5</sup>, extended periods of high flows, prolonged cold weather, and a requirement to provide complete treatment at high peak flow rates, individually or in combination, greatly reduces the plant's capacity to remove nitrogen while meeting its other permit requirements.

## **B. Proposed Interim Nitrogen Limit**

### 1. Overview

At the outset, we wish to emphasize that WASA has no objection to moving from a total nitrogen goal to an interim total nitrogen limit. As reflected in its nitrogen reduction efforts to date, WASA is a strong supporter of the Chesapeake Bay Program's nutrient reduction initiative and the goals of the Chesapeake 2000 Agreement. WASA also understands that total nitrogen limits either have been or soon will be included in the permits for the other significant dischargers of nitrogen in the Chesapeake Bay watershed. Rather, WASA's objection is to the assumed technical bases for the derivation of the interim limit and the resulting risk of non-compliance that the limit poses for WASA. By relying almost entirely on very limited, highly variable, historical effluent data and failing either to consider WASA's engineering analyses or conduct its own such analyses (including the factors and variables that significantly affect Blue Plains' limited capacity to control for nitrogen), EPA arrived at an interim nitrogen limit that is too stringent. As discussed below, a correct and legally sufficient analyses leads to the conclusion that the appropriate interim nitrogen limit is 9,550,000 lbs/yr (with the current peak flow limits) rather than the interim limit of 8.6 million lbs/yr proposed by EPA in the draft permit modification (without the current peak flow limit).

### 2. EPA Has Failed to Provide a Reasoned Explanation of the Basis for the Proposed Interim Limit

Although we are uncertain of the analysis that EPA used to arrive at the proposed interim limit, it is clear that EPA is attempting to arrive at a technology-based requirement which reflects Blue Plains' capability to control nitrogen during the period between the effective date of the modification and the installation of facilities designed to meet Blue Plains' total nitrogen waste load allocation.<sup>6</sup> It is also clear that EPA relied on very limited, highly variable, historical data

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<sup>5</sup> Letter (with attachments) dated June 21, 2006 from Jerry N. Johnson to Jon M. Capacasa; Letter (with attachments) dated July 31, 2006 from John T. Dunn to Jon M. Capacasa.

<sup>6</sup> Draft Fact Sheet at 5; EPA's Proposed Nitrogen Limit – Blue Plains NPDES Permit – July 12, 2006 (from EPA Region III Administrative Record on file at the Martin Luther King Library).

to establish the proposed limit.<sup>7</sup> What is not clear and what EPA has not explained is the data that it relied on to arrive at the proposed interim limit or the bases for its conclusion that WASA will be able to achieve the proposed limit “even with increased loadings to the plant”.<sup>8</sup>

The draft fact sheet states that the limit is based on EPA’s “evaluation of real-time production data for the period of time 2003 through 2004,” and that “these years were chosen because they represent both low temperature and high volume which most significantly impact operation of the biological system.”<sup>9</sup> Although the foregoing purports to explain the bases for the proposed limit, it raises more questions than it answers.

First, is the referenced time period for the entire calendar years 2003-2004 or some combination of months from these years? The explanation offered for the nitrogen goal later in the fact sheet refers to the use of data from “the calendar year 2004-2005”. Accordingly, we can only assume that the reference to the use of data “for the period of time 2003 through 2004” to develop the proposed interim limit refers to something other than the calendar years 2003 and 2004, but the fact sheet does not explain what this period is. WASA is unable to fully evaluate and comment on the proposed limit without knowing the time period and, therefore, the data that EPA used to derive the limit.

Second, what is the basis for EPA’s conclusion that WASA would be able to achieve the limit even with increased loadings to the plant? EPA obviously is aware that loadings will increase in the future and that these increased loadings together with low temperature conditions will affect the plant’s performance with respect to nitrogen removal, but it offers absolutely no explanation for its conclusion. We can only assume that EPA is referring to the fact that the design flow (370 MGD) used to calculate the limit is greater than the current annual average flow (338 MGD), and that this difference adequately accounts for increased flows and low temperature conditions in the future. If so, as discussed below, EPA has reached the wrong conclusion. But, the point here is that we do not know why EPA reached the conclusion that it did, and, therefore, we are not afforded an adequate opportunity to comment.

In response to WASA’s request to EPA for a further explanation of the basis for the proposed interim limit (WASA’s September 8, 2006 letter to EPA), EPA referred us to Region III’s Administrative Record on file at the Martin Luther King Library. Unfortunately, these files only raise additional questions rather than providing the explanations we were seeking. Specifically, pages from the Administrative Record that are dated July 12, 2006 and titled “EPA’s Proposed Nitrogen Limit – Blue Plains NPDES Permit” purport to explain EPA’s basis for the proposed interim limit. Paragraph 4 of this document suggests that EPA used an annual rolling average nitrogen concentration of 6.49 mg/l from 2002, a design flow of 370 MGD, and the current peak flow factor now in the permit to derive the limit. However, this is at odds with

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<sup>7</sup> Id. EPA appears to have relied to some extent on the difference between the current long-term average annual effluent flow of 338 MGD and the 370 MGD design capacity used to calculate the proposed limit. *See*, EPA’s Proposed Nitrogen Limit – Blue Plains NPDES Permit – July 12, 2006. But, as discussed below, future average annual flows are expected to reach, if not, exceed 370 MGD.

<sup>8</sup> August 18, 2006 Draft Fact Sheet at 5

<sup>9</sup> Id.

the fact sheet which states that the limit was based on data from the period 2003 through 2004. Moreover, as mentioned above, the current peak flow factors expire in June 2007, yet EPA simply assumes in the document that the current factors will continue for the life of the permit. Finally, the proposed limit in the document does not even correspond to the limit proposed in the draft permit modification. The document states that the proposed limit is 7,321,000 pounds per year when, in fact, the proposed limit in the draft permit modification is 8.6 million lbs/yr. The “nitrogen limit matrix” on the last page of the document only adds to the confusion because it refers to a 8.6 million lbs/yr limit as the nitrogen goal now in the permit. In fact, the current goal is 8,467,200.

The law is clear that EPA is under an obligation to provide a “rational connection between the facts found and the choice made”<sup>10</sup> and must “cogently explain why it has exercised its discretion in a given manner.”<sup>11</sup> WASA respectfully submits that EPA has neglected to fulfill this basic obligation by its failure to provide a reasoned explanation of the basis for the proposed interim limit and the analysis used to derive it.

3. The Proposed Interim Limit is Unlawful Because it was not Developed in Accordance with EPA’s Rules, and Fails to Account for All the Significant Variables that will Affect WASA’s Ability to Comply with the Limit During the Time that it is Expected to Remain in Effect

Together, EPA’s notices of the draft permit modification and the draft fact sheet state that the limit is a technology-based, best professional judgment (BPJ) determination.<sup>12</sup> EPA’s regulations provide that technology-based treatment requirements in permits for publicly-owned treatment works (POTWs) must be based on either secondary treatment standards or “best practicable waste treatment technology” (BPT).<sup>13</sup> Since there are no secondary treatment standards for nitrogen, an interim nitrogen limit for Blue Plains would have to be based on BPT. EPA’s regulations also provide that when establishing effluent limitations using BPJ on a case-by-case basis, the permit writer must consider (1) the appropriate technology for the category or class of point sources of which the applicant is a member, and (2) any unique factors relating to the applicant.<sup>14</sup> When establishing BPT limits using BPJ on a case-by-case basis, the permit writer must consider six factors, two of which are applicable here.<sup>15</sup> The first is the age of the equipment and facilities involved, and the second is the process employed.<sup>16</sup>

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<sup>10</sup> Motor Vehicle Mfrs. Ass’n. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983) (internal quotations and citations omitted). *See also*, Professional Pilots Fed’n v. FAA, 118 F.3d 758 (D.C.Cir. 1997).

<sup>11</sup> Motor Vehicle Mfrs. Ass’n, 463 U. S. at 48; *See also*, NRDC v. EPA, 859 F.2d 156, 156-59 (D.C. Cir. 1988) (overturning EPA action for failure to articulate adequate grounds for its conclusions).

<sup>12</sup> August 18, 2006 Draft Fact Sheet; September 14, 2006 EPA Notice

<sup>13</sup> 40 CFR 125.3(a)(1).

<sup>14</sup> 40 CFR 125.3(c).

<sup>15</sup> *Id.*

<sup>16</sup> The other four factors include (1) the total cost of the application of the technology in relation to the effluent reduction benefits achieved, (2) the engineering aspects of the application of various types of control technologies, (3) process changes, and (4) non-water quality environmental impact (including energy requirements). *See*, 40 CFR 125.3(d). These factors do not apply here because they involve the establishment of limits around new or expanded control technologies. EPA’s proposal to add an interim nitrogen limit to the Blue Plains permit is designed to ensure that the existing facilities are used to control nitrogen to the extent practicable pending construction and operation of

EPA's NPDES Permit Writer's Manual adds that BPJ determinations must be reasonable and based on a sound engineering analysis.<sup>17</sup>

In this case, the clear intent is to establish a limit that will ensure that WASA operates and manages the existing facilities at Blue Plains to control nitrogen to the greatest extent practicable while at the same time achieving compliance with the interim limit and the other conditions in its permit until such time as new facilities to meet a final nitrogen limit can be constructed and placed in operation.<sup>18</sup> In other words, the intent is to establish a limit based on BPT using BPJ. Consequently, the limit must take into account not only the plant's performance and record during the brief period since the current goal was added to the permit, but also other critical factors which will affect WASA's ability to comply with the limit in the future. These factors include the absence of facilities designed to treat nitrogen to meet a specific limit, the plant's limited capability to remove nitrogen, WASA's wet weather flow treatment obligations and the impact of these obligations on the plant's nitrogen removal capability, scheduled construction which will affect the plant's ability to control for nitrogen, and completion in 2008 of major rehabilitations to the pumping stations that deliver flow to Blue Plains. The foregoing reflect the relevant factors in this case that EPA's regulations require it to consider when establishing a limit based on BPT using BPJ; namely, the process employed, the age of the equipment and facilities, and unique factors relating to the applicant.

Unfortunately, EPA relied almost exclusively on very limited, highly variable, historical effluent data and ignored the critical factors listed above. In so doing, EPA failed to follow its own regulations and guidance for establishing effluent limits based on BPT using BPJ, and, as a consequence, proposed an interim limit that is too stringent and would expose WASA to significant risk of non-compliance despite its best efforts to meet the limit utilizing all available technology and capacity.

It appears that EPA did not take into account three critical factors affecting future plant performance in support of its conclusion that "[p]lant operational records predict that this load (8.6 million lbs/yr interim limit) can be achieved even with increased loadings to the plant".<sup>19</sup>

During 2003 and 2004, the plant was operating under the current peak flow permit limits of 511 MGD for periods up to four hours and 450 MGD for periods longer than four hours. Under the terms of the existing permit, these flow limits are scheduled to be replaced on June 28, 2007 with peak flow limits of 740 MGD for periods up four hours and 511 MGD for periods longer than four hours. Therefore, the "real-time production data" that EPA states it used to derive the interim limit is based on results when peaks were limited to the 511/450 MGD tiers. As explained below, peak flow limits are a critical factor in the plant's ability to meet a specified nitrogen load limit, yet EPA relied on past plant performance to derive the limit when the permit

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nitrogen control facilities designed to achieve the final permit limit. Consequently, the BPT interim nitrogen limit in this case must be based on the Blue Plains' existing equipment, facilities and processes rather than new or expanded nitrogen control technologies.

<sup>17</sup> EPA NPDES Permit Writer's Manual at 68.

<sup>18</sup> See *eg.*, Draft Fact Sheet at 5 ("Plant operational records predict that this load [proposed interim limit] can be achieved even with increased loadings to the plant).

<sup>19</sup> Draft Fact Sheet at 5

calls for changing a critical plant operating parameter next year. Furthermore, the proposed modification makes no provision to keep the 511/450 MGD flow tier in effect during the life of the interim nitrogen limit

Also, EPA is well aware that over the next several years the plant will be undergoing major construction to upgrade several plant components, and that these upgrades will affect the plant's ability to control nitrogen. EPA's statement in the draft fact sheet that it will adjust the limit to reflect available reactor capacity in the event of a pre-approved shut down of one or more reactors is totally inadequate to address this situation because EPA can not commit to such an adjustment without a future permit modification and public participation.

Finally, the proposed limit is based upon an annual average flow of 370 MGD, but EPA did not consider the possibility, if not probability, that plant flows would increase above this average during the time that the interim limit is in effect. Annual average flows above 370 MGD would, of course, make it more difficult to meet the limit by requiring a lower nitrogen concentration in the effluent. The draft fact sheet and EPA's Administrative Record on file at the Martin Luther King Library indicate that EPA relied to some extent on the difference between current long-term average flows (338 MGD) and the plant's design capacity (370 MGD) to support its conclusion that WASA could meet the interim limit even with increased loadings. However, EPA's reliance on historical long-term average flows is misplaced because it fails to account for a number of factors that will affect average annual plant flows from year-to-year in the future. It does not take into account wet years when flows can approach or exceed 370 MGD. For example, in 2003, the plant's average annual flow totaled 378.761 MGD. Moreover, the occurrence of flows above 370 MGD can be expected to increase with continued growth in the Blue Plains service area and the increase in wet weather flows resulting from the pumping station rehabilitations described above. WASA submits that it was arbitrary for EPA to use historical average flow data to support its proposed limit while ignoring the impact of wet years such as 2003 and future increases in flows from the pumping station rehabilitations and continued growth in the service area.

4. An Analysis Which Conforms to EPA's Rules and Accounts for All the Significant Variables Yields a Less Stringent Interim Limit than That Proposed by EPA

As mentioned above, regardless of the exact historical performance data relied upon by EPA to derive its proposed limit, these data are too limited and too variable to use as the basis for the interim limit given the effects of weather on the plant's capacity to remove nitrogen, the projected increase in flows over the five to ten-year period that the interim limit can be expected to remain in effect, the loss of treatment capacity while plant upgrades are underway, and the future requirement in the proposed permit modification to provide complete treatment to higher peak flows than the peak flows that occurred during the time that the data were generated. A proper and legally sufficient analysis must take all of these factors into consideration in arriving at the correct interim limit.

WASA has performed analyses that incorporate the conditions outlined above. These analyses were based on developing an interim permit limit that would include continuation of the 511/450 MGD complete treatment flow tier, but no other conditions that would limit the application of the interim limit. Metcalf & Eddy (WASA's Consultant), LTI – Limno-Tech and Greeley and Hansen prepared engineering analyses submitted to EPA as Attachments Nos. 1 and 3 to WASA's July 31, 2006 letter.<sup>20</sup> The engineering analyses were based on the following:

- a. Data for actual performance for the twelve month period between May 1, 2003 through April 30, 2004 which reflects both high flows and low temperatures and a total nitrogen discharge of 7.7 million pounds. This could be the period described by EPA in the fact sheet as the basis for the interim limit because the fact sheet states that "this limit is based on evaluation of real-time production data for the period 2003 through 2004."
- b. Consideration that the plant would not effectively denitrify for a period of two months which includes the low temperature period and a recovery period.
- c. Consideration of the interim permit being in effect for an extended period of time. The process would, therefore, have to accommodate the impacts of an increase in dry weather flow due to normal projected growth in the service area. This condition could see an increase from an annual average of 330 MGD to around 350 MGD for dry weather/normal rainfall conditions.
- d. Application of a "safety factor" to the limit derived from the basic engineering analyses that incorporate the data base and considerations listed above. The application of a safety factor is a common practice for meeting the normal standard of care in wastewater process engineering. The safety factor is applied to accommodate the many variables in biological wastewater treatment associated with the characteristics and level of activity of the biology, flow, temperature, oxygen transfer, frequency and duration as well as other physical conditions. Safety factors may range from a level of 1.05 that might be applied for a hydraulic loss allowance to 2.0 or 3.0 when it is necessary to provide adequate capacity to insure the availability of the level of biomass needed for a given temperature and load condition to meet an effluent limit. In this case, WASA's Consultant determined that a safety factor of 1.1 should be applied to the limit derived from the analyses reflected in (a), (b), and (c) above

The analyses made by WASA's Consultant are summarized as follows:

1. For the condition that prevailed during the period described in (a) above, the projected annual total nitrogen load (effluent) of approximately 8.0 million pounds taking into consideration the conditions described in (b) above. As described in WASA's July

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<sup>20</sup> Letter dated July 31, 2006 from John T. Dunn to Jon M. Capacasa, including attachments.



31, 2006 letter, WASA's Consultant employed its process models to determine performance when the plant was not effectively denitrifying.

2. When the conditions described under (c) above are factored into the analyses, the projected future annual total nitrogen load (effluent) increases to approximately 8.7 million pounds. Note; if EPA's proposed limit is based on the analyses to this point, its annual limit of 8.6 million pounds is 100,000 pounds less than the limit developed in the engineering analyses conducted by WASA's Consultant.
3. The annual nitrogen load established in (2) above does not cover variable situations that are not readily quantifiable for a facility that was never designed to simultaneously meet a nitrogen limit and its other permit conditions under expected variations in temperature, flow and load. Such variable situations include, but may not be limited to an increase in the frequency and duration of peak flows resulting from rehabilitation of the pumping stations, variability in mixed liquor settling characteristics, hydraulic surges that create short-circuiting, unequal air distribution and release of nitrogen gas in the clarifiers that can degrade effluent quality. WASA's Consultant, following prudent design and normal standard of care practice, applied a factor of 1.1 to the approximate 8.7 million pound load to arrive at an annual load of 9,550,000 pounds which is equivalent to a concentration of 8.5 mg/l at 370 MGD.

WASA's Consultant also provided engineering calculations to establish a nitrogen limit during construction of the internal upgrades to the facilities used for nitrogen removal. Although EPA states in the fact sheet that there will be a limit adjustment for construction and maintenance, there is no permit condition to provide for this situation. Consequently, the permit would have to be modified in the future to make this adjustment. Therefore, it can not be assumed that WASA will actually receive the relief mentioned in the fact sheet.

The upgrade project has been advertised for construction and bids are scheduled to be received on November 8, 2006. This construction is expected to start in 2007 and take about four years to complete. For nearly all that time, one reactor is planned to be out of service continuously. It is vital, therefore, that the permit clearly provide for this situation.

As described in the July 31, 2006 letter, WASA's Consultant determined that the total nitrogen load to the reactors remaining in service would increase by 10 percent. The annual total nitrogen limit would be about 10.5 million pounds which translates to 9.3 mg/l at 370 MGD. This is based on a ratio of full reactor capacity (12 units) to construction capacity or  $12/11 \times 8.5 \text{ mg/l} = 9.3 \text{ mg/l}$ .

In summary, WASA's engineering analyses show that permit conditions developed by using existing performance data and normal standard of care engineering practice should not be less than 8.5 mg/l for an interim limit and 9.3 mg/l for the construction period. These limits properly address the factors that need to be considered when establishing an effluent limit based on BPT using BPJ. The limits are also reasonable and rational because they would not expose WASA to potential permit violations when producing the best effluent quality feasible under adverse and variable conditions.

### C. Proposed Nitrogen Goal

In addition to the interim nitrogen limit, EPA proposes to include in the permit a nitrogen goal of 5.8 million lbs/yr. WASA objects to the goal because it is unnecessary, arbitrary, and unachievable with the process and weather conditions that can be expected during the period that the goal likely will remain in effect.

While the goal may have served a useful purpose in the past as a target against which to judge the plant's performance, it is no longer necessary now that EPA proposes to add a nitrogen limit to the permit. Moreover, it appears that the goal may have been derived arbitrarily by totaling the plant's annual nitrogen loads for the calendar years 2004 and 2005 and dividing the total by two to arrive at an average for the two years. If this was the methodology used to arrive at the goal, it is fundamentally flawed because it simply represents the average performance for the two best years of performance. A goal should be set at a performance level that at least can be expected to be met a substantial part of the time.

It is also arbitrary to establish a goal based on only two years of plant performance data, which, of course, fails to take into account years experiencing higher rainfall and colder temperatures which can significantly reduce the plant's capacity to control nitrogen. For example, in 2003 the plant discharged approximately 7.3 million pounds of nitrogen due to high rainfall and cooler than normal temperatures. WASA would have exceeded the goal by a wide margin in 2003 had it been in effect during that year.

Finally, WASA takes little comfort in the fact that EPA's proposal is expressed as a goal rather than a limit. EPA must intend that the goal have some significance or it would not have proposed to include it in the permit. In fact, WASA suspects that EPA attaches greater significance to the proposed goal than it did to the current goal because the proposal omits the current permit language clarifying the intent and purpose of the goal.<sup>21</sup> Further, the fact sheet describes the proposed goal as a "meaningful step towards the Bay goal", which suggests that EPA expects the goal to be achieved.<sup>22</sup> Weather such as that experienced in 2003 will most

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<sup>21</sup> The clarifying language states that

"[t]he goal is a guideline for the operation of the facility, not an allocation cap or limit. The permittee shall operate the BNR process and undertake best efforts to meet the nitrogen goal for this facility. Best efforts to meet this goal require optimal operation of nitrogen removal technology to the extent such operation does not preclude permittee's ability to meet its other obligations pursuant to the permit."

<sup>22</sup> Draft Fact Sheet at 5.

certainly occur during the time that the goal is in effect, and when it does, WASA will exceed the goal despite its best efforts to remove as much nitrogen as possible. What will be the consequences when WASA exceeds the goal? Will they be legal, with WASA accused of failing to comply with its permit, or will WASA simply be branded as a laggard that has failed to fulfill its responsibilities as a partner in the Bay cleanup? The prospect of either consequence is very troubling to WASA. We value our compliance record and our reputation, and they should not be put at risk by an arbitrary and unnecessary goal. Accordingly, WASA asks that the proposed goal be removed from the permit.

#### **D. Proposed Implementation Schedule**

WASA strongly supports the addition of a schedule to the permit which will provide us with the time needed to conduct pilot testing and to evaluate alternatives for cost effectively complying with our nitrogen allocation for Blue Plains while meeting our CSO control responsibilities. Individually, these requirements are large, complex, and expensive tasks: together, they are massive, exceedingly complex, and have the potential to be prohibitively expensive. A properly constructed schedule will afford WASA the opportunity to develop and propose an action plan that will provide for the most cost-effective approach to meeting the nitrogen allocation for Blue Plains.

The proposed schedule in Section E.3 of the draft permit modification contains five activities and corresponding deadlines, all of which run from the effective date of the permit modification. Based on a permit modification becoming effective by November 1, 2006, the last activity in the schedule would be completed by November 1, 2007. This schedule would complete the activities nearly four months before the permit's February 25, 2008 expiration date. While we understand that EPA wishes to receive the final action plan far enough in advance of the expiration date to use it in preparing the draft permit re-issuance, we believe this is more time than is needed. WASA intends to provide EPA with substantial information as the work progresses so that by the fall of 2007 EPA will have sufficient information to prepare a draft permit in time to reissue it by the expiration date. While the addition of several months to the schedule would not compromise EPA's ability to re-issue the permit on time, as discussed below, it would afford WASA critical additional time needed to produce a technically sound action plan and schedule.

The first two deadlines in the proposed schedule provide sufficient time to complete the corresponding activities; however, the remaining three activities can not be completed by the corresponding deadlines proposed in the schedule.

Activity No. 3 calls for WASA to submit to EPA a final comprehensive total nitrogen limits/wet weather technical plan within 90 days of the effective date of the permit modification. This activity will include review of the draft plan by EPA and the jurisdictions served by Blue Plains, discussions and any plan modification that may be required, pilot facilities, and finalizing the selected plan. It will also include developing and finalizing any proposed modifications to WASA's Long Term CSO Control Plan (LTCP) needed to accommodate cost-effective nitrogen control. WASA can not complete these activities within the proposed 90-day period, but believes

it can complete them within 180 days after the effective date of the modification. Therefore, WASA requests that the deadline for activity No. 3 be changed from 90 days to 180 days.

Activity No. 4 requires WASA to initiate operation of testing facilities for enhanced clarification within 180 days of the effective date of the permit modification. This activity will include issuing the notice to proceed and purchase order for the enhanced clarification pilot facilities, preparation of design and shop drawings for the pilot facilities and other facilities, site work, fabrication and delivery of the facilities, and on-site erection and start-up of the pilot facilities. WASA can not complete these activities within the proposed 180-day period, but believes that it can complete them within 360 days after the effective date of the modification. Therefore WASA requests that the deadline for activity No. 4 be changed from 180 days to 360 days.

Finally, activity No. 5 requires WASA to submit to EPA its total nitrogen Action Plan and Schedule within 360 days after the effective date of the modification. This activity will include initial review of the results of pilot testing. It will also include preparation of the plan, including planning and developing all the activities and nitrogen-related pilot testing facilities and a timetable for implementing the selected plan for nitrogen removal and wet weather treatment to meet the final nitrogen limit and LTCP requirements. WASA can not complete these activities within the proposed 365-day period, but believes that it can complete them within 480 days after the effective date of the modification. Therefore, WASA requests that the deadline for activity No. 5 be changed from 360 days to 480 days.

Our proposed schedule would require WASA to submit its total nitrogen Action Plan and Schedule by February 1, 2008, assuming the modification is effective on November 1, 2006. Since February 1, 2008 is several weeks ahead of the permit's expiration date and EPA will have been provided with substantial information well in advance of that date, we believe our proposed schedule provides a reasonable opportunity to develop the nitrogen-related permit conditions for the next permit cycle while affording WASA a reasonable time frame within which to develop the plan and schedule.

## II. REVISIONS TO PROPOSED PHASE II CSO CONDITIONS

These proposed revisions consist of (1) modification of Part III.E.1 to incorporate a water quality standards compliance requirement that includes both the narrative and numeric standards while limiting the duration of the requirement to the period of LTCP implementation, and (2) modification of Part III.E.2-4 to delete the TMDL-derived numeric limits.

### **A. The Proposed Standards Compliance Requirement at Part III.E.1 Does Not Conform to the CSO Policy**

As EPA knows, WASA objected to Part III.E.1 at the time it was added to the permit when the permit was first modified on December 16, 2004. WASA objects to this proposed modification as well for the same reasons. The basis for the objection is set forth in detail in

WASA's April 16, 2004 written comments on the proposed modifications that eventually were finalized on December 16, 2004 as well as WASA's January 18, 2005 Petition for Review to the U.S. EPA Environmental Appeals Board. Both of these documents are incorporated by reference in these comments.

In summary, WASA believes that both the existing and proposed water quality standards compliance requirement fail to conform to Section IV.B.2.c of EPA's CSO Control Policy, and, therefore, violate Section 402(q) of the Clean Water Act (Act) because they are water quality-based requirements that are not authorized by the Act. The only kind of water quality-based requirement specifically mentioned in Section IV.B.2.c of the Policy are "numeric performance standards for the selected CSO controls." Additional water quality-based CSO requirements can be included in the permit, but only if they are shown to be necessary to meet the water quality-based provisions of the Act.

In WASA's case, EPA found that the selected controls in its LTCP will meet the District's water quality standards and designated uses and has included in the permit performance standards for the selected controls that, when achieved, will provide for compliance with the standards and designated uses. Therefore, it is not necessary for EPA to include Section III.E.1 in the permit in order to meet the water quality-based provisions of the Act because the permit includes the performance standards specifically called for in Section IV.B.2.c of the CSO Policy. Part III.E.1 both as it now appears in the permit and as it is proposed in the permit modification serves no purpose other than to unfairly expose WASA to permit non-compliance, and, therefore, it does not conform to the Policy and violates Section 402(q) of the Act.

EPA's proposal to limit the term of standards compliance requirement in Part III.E.1 does reduce the extent to which it exposes WASA to permit non-compliance, but for the reasons summarized above, it is still not authorized by the CSO Policy and it still unfairly exposes WASA to liability for permit non-compliance. Therefore, WASA continues to object to Part III.E.1 and asks that it be removed from the permit in its entirety.

**B. WASA Supports the Proposed Modification to Delete the TMDL-Derived Limits at Part III.E.2 - 4.**

For the reasons stated in our April 16, 2004 written comments on the previous modification and our January 18, 2005 Petition for Review, WASA strongly supports EPA's proposal to delete the TMDL-derived limits and related conditions at Part III.E.2 - 4.

**C. The Permit Should Contain a Compliance Schedule for Implementation of the Selected Controls in WASA's LTCP**

EPA will recall that WASA objected to and appealed EPA's failure to include an implementation schedule for the selected controls in WASA's LTCP when the permit was modified on December 16, 2004 to incorporate the LTCP-derived performance standards at Part III.C. The LTCP-derived performance standards are not affected by this proposed modification.

Ms. Mary Letzkus

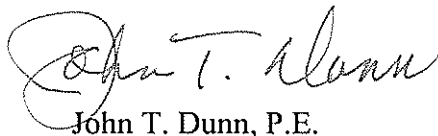
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Therefore, WASA believes that the permit should contain an implementation schedule for the reasons stated in our comments on the previous modification and in our January 18, 2005 Petition for Review. Therefore, WASA objects to EPA's failure to include a compliance schedule for implementation of the selected controls in its LTCP.

Again, WASA appreciates the opportunity to submit these comments. Please do not hesitate to contact me if you have any questions or need additional information.

Sincerely

A handwritten signature in black ink, appearing to read "John T. Dunn". The signature is fluid and cursive, with the first name "John" being the most prominent.

John T. Dunn, P.E.

Chief Engineer/Deputy General Manager

c: Avis M. Russell  
Leonard R. Benson  
Walter F. Bailey  
Mohsin R. Siddique  
Ronald E. Bizzarri  
Edward Locke  
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