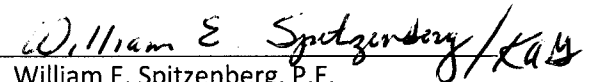


**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

In Re:)
American Samoa Power Authority)
Utulei Sewage Treatment Plant)
NPDES Permit No. AS0020001)

PETITION FOR REVIEW


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December 20, 2019
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Attachment 2: 2011 Administrative Order CWA-309(a)-11-017

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Attachment 4: 2001 Current NPDES Permit AS00200001

Attachment 5: Final Diffuser Configuration Technical Memorandum

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Attachment 8: 2018 AS0020001 Utulei STP Draft Permit (Pre-public Notice)

Attachment 9: 2018 AS0020001 Utulei STP Draft Fact Sheet – Pre-public Notice version

Attachment 10: 2018 Comments on Pre-public Draft -Utulei-ASPA Review

Attachment 11: AS0020001 Utulei STP 2019 Permit – Public Notice Draft

Attachment 12: AS0020001 Utulei STP 2019 Fact Sheet – Public Notice Draft

Attachment 13: ASPA Comments on Draft Permit for Utulei STP – 12 July 2019

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INTRODUCTION

The American Samoa Power Authority (ASPA) owns and operates the Utulei Sewage Treatment Plant (STP) which discharges treated domestic wastewater into Pago Pago Harbor, American Samoa under a National Pollutant Discharge Elimination System (NPDES) permit No. AS0020001 issued by the U.S. Environmental Protection Agency – Region 9 (EPA). A renewal NPDES permit (Attachment 1) was issued on November 18, 2019 with an effective date of permit of January 1, 2020. ASPA is appealing the total nitrogen (TN), total phosphorous (TP), ammonia, and whole effluent toxicity (WET) effluent limitations in the renewal permit per 40 C.F.R. § 124.19(a).

Purpose

This document provides the rationale for appealing the permit limitations for TN, TP, ammonia, and WET limitations. In all cases the rationale for appeal is the use of new data collected at the request of EPA under an administrative order (AO: Attachments 2 and 3). The new data includes the reconfiguration of the outfall diffuser and the use of recent more accurate reliable oceanographic data which increases the initial dilution achieved by the outfall diffuser. EPA acknowledged but did not use the new information, citing anti-backsliding provisions [Section 402(o)] of the Clean Water Act (CWA). ASPA contends that this is new and previously unavailable data and should be used under exceptions to the anti-backsliding provisions as stated in the CWA [Section 402(o)(2)(A) and (B)].

Background

The current NPDES permit for the Utulei STP (Attachment 4) was issued with an effective date of permit (EDP) of October 9, 2001 with a Section 301(h) waiver from secondary treatment. ASPA applied for a renewal permit (April 11, 2006) and a renewal waiver within the required time (May 1, 2006; Revised March 1, 2008). EPA issued a tentative decision to deny the waiver from secondary treatment (January 14, 2009). ASPA appealed the tentative decision to deny the waiver based on cost, treatability, staffing, and lack of land (July 31, 2009). Subsequently, EPA issued an Administrative Order (AO) on July 27, 2011 (CWA-309(a)-11-017). The intent of the AO was to gather sufficient information to support the continuance of a 301(h) waiver from secondary treatment. The AO included effluent monitoring for TN, TP, and ammonia and further included a requirement to investigate ways to increase dilution performance. ASPA and EPA agreed that reconfiguration of the diffuser was the best approach.

Based on the TN, TP, and ammonia data collected under the AO, the discharge cannot meet end-of-pipe American Samoa Water Quality Standards (ASWQS) criteria for these parameters. In the renewal NPDES permit EPA provided concentration effluent limitations for the discharge based on a dilution credit (91:1) associated with a previously calculated dilution mixing zone in the receiving water (circa 2005). This dilution is based on outdated information concerning the dilution performance of the outfall system and did not account for EPA mandated changes that were made to the multiport high-rate outfall diffuser and did not account for additional and updated receiving water properties (density data) that were used to recalculate dilution (313:1). It is noted that the diffuser modifications and performance reports were sent to, and received by, EPA (Attachments 5 and 6).

After review of TN and TP datasets (Attachment 7) collected under the AO, both ASPA and EPA agree, the discharge will likely exceed the proposed TN and TP limitations in the renewal NPDES permit a substantial portion of the time.

Furthermore, EPA decreased the dilution credit to 91:1 in the renewal permit to be applied to the WET testing results used to determine compliance with toxicity of the effluent to aquatic organisms. Based on the previous results the reduction in dilution credit will result in non-compliance a significant portion of the time.

ASPA Comments to EPA

During the Pre-Public Draft Permit review process and again during the public draft review process ASPA submitted comments to EPA (see Factual and Procedural Background discussion below) regarding a request to change the proposed dilution credits for TN, TP, ammonia, and WET concentration limitations based on the demonstrated updated dilution performance of the Utulei STP diffuser. In EPA's response to comments document (see Factual and Procedural Background discussion below) included with the issuance of the final NPDES permit, EPA acknowledged the situation described by ASPA comments on TN and TP exceedances, and clearly acknowledge the updated dilution, but disagreed with ASPA's request to increase the dilution credits or adjust the TN and TP limitations. Thus, insuring permit violations will occur.

EPA's reason for the promulgated TN and TP limitations in the permit are explained in the EPA response to ASPA's comment (see Factual and Procedural Background discussion below) and is based on anti-backsliding requirements of the Clean Water Act. ASPA believes, as provided in the comments submitted during the public comment period (see Factual and Procedural Background discussion below), that physical modifications to the diffuser and the addition of more recent receiving water data result in acceptable exceptions to anti-backsliding criteria under Sections 402(o)(2)(A) and 402(o)(2)(B)(i) of the CWA. ASPA believes EPA's application of anti-backsliding criterion in the rejection of acceptance of the increased dilution credit is incorrect and the effluent limitations for TN, TP, ammonia (in terms of ammonia impact ratio), and WET (in terms of the IWC), can and should be higher than provided for in the renewal permit.

Scope of Request

This request for review is to include the updated dilution in the determination of effluent limitations for TN, TP, ammonia, and WET testing and revise the limitations appropriately.

FACTUAL AND PROCEDURAL BACKGROUND

The discussions that follow are specific to the effluent limitations for TN, TP, ammonia, and WET limitations and the concomitant dilution credits applied to the determination of those limitations.

Pre-public Draft Renewal Permit

The Pre-Public Review Draft Permit (Attachment 8) were provided to ASPA by EPA on April 10, 2018. The following points are identified for reference:

- Statement of proposed nitrogen effluent limitation: Kjeldahl nitrogen, total (as N): average monthly limitation of 18.2 mg/L and a daily maximum concentration of 54.6 mg/L. Part I. B. Table 1, page 6 of 51.

- Statement of proposed phosphorous effluent limitation: Phosphorous, total: average monthly limitation of 2.73 mg/L and a daily maximum concentration 8.19 mg/L. Part I. B. Table 1, page 6 of 51
- Statement of dilution credit as 91:1 for effluent limitations. “Note that all concentration-based parameters – those expressed in mg/L – are to meet the values listed here before entering the diffuser, that is before the effluent undergoes the regulatorily approved 91:1 dilution in the mixing zone”. Part I. B. Table 1, page 6 of 51.
- Statement of dilution credit as 187:1 for whole effluent toxicity: “effluent concentration chronic toxicity test at the IWC of 0.54 percent effluent (dilution of 1/187, multiplied by 100 to convert into percent and then rounded)”. Part II. C. 4. *Chronic WET Permit Trigger, Page 15 of 51*
- Statement of dilution credit as 91:1 for ammonia: “Objective with 91:1 Dilution”. Appendix E. Table I and II, page 51 of 51.

The Pre-Public Review Draft Fact Sheet (Attachment 9) accompanied the Pre-Public Review Draft. The following points are identified for reference:

- Description of diffuser based on out dated information: “The diffuser consists of six ports and has a total length of approximately 47 feet, with the ports spaced approximately seven feet apart. The ports have a diameter of 7.75-inches and the average depth of the ports is 145 feet.” Section II, page 2.
- EPA discussion of dilution credit as 91:1. Section IV.B.2, page 12
- EPA stated use of dilution credit of 91:1 and acknowledgement of performing reasonable potential analysis. Section IV.B.5, pages 12-13
- EPA acknowledgement of no prior effluent monitoring requirement for nitrogen: “Due to the previous permit’s lack of an effluent monitoring requirement for nitrogen, it is difficult to ascertain what effect the actual contents of the discharge could have, which further reinforces the need for accurate monitoring of nutrients in the effluent”. Section IV.C. *Total Nitrogen and Total Phosphorous*, page 15
- EPA statements on anti-backsliding: Section 402(o) of the CWA prohibits the renewal or reissuance of an NPDES permit that contains effluent limits less stringent than those established in the previous permit, except as provided in the statute. The permit does not establish any effluent limits less stringent than those in the previous permit and does not allow backsliding”. Section IV.D. *Anti-Backsliding*, page 15

ASPA submitted comments on the Pre-Public Draft NPDES Permit and Fact Sheet on May 3, 2018 (Attachment 10) that included the following:

- Discussion related to the Pre-Public Review Draft Fact Sheet NPDES Permit No. AS0020001 that use of the 91:1 dilution is outdated, and newer and more applicable information should be utilized: Section A, Comments on Proposed Fact Sheet. Comments 3, 5, 6, 9, 17, and 20.
- Discussion related to the Pre-Public Draft Permit that use of the 91:1 dilution is outdated, and newer and more applicable information should be utilized: Section B, Comments Pre-Public Draft Permit Comments 3, 6, and 20
- Discussion related to the disagreement with the Pre-Public Draft Permit TN and TP effluent Limitations : Section B, Comments Pre-Public Draft Permit Comment 6

- Discussion related to the disagreement with the Pre-Public Draft Permit dilution credit for effluent toxicity: Section B, Comments Pre-Public Draft Permit Comment 20

Public Review Draft Renewal Permit

The Public Review Draft NPDES permit (Attachment 11) was provided to ASPA by EPA on April 30, 2019.

The following points are identified for reference:

- Statement of proposed nitrogen effluent limitation: Nitrogen, total (as N): average monthly limitation of 18,200 µg/L and a daily maximum concentration of 45,000 µg/L. Part I. B. Table 1, page 4 of 47.
- Statement of proposed phosphorous effluent limitation: Phosphorous, total: average monthly limitation of 2,730 µg/L and a daily maximum concentration 8,190 µg/L. Part I. B. Table 1, page 5 of 47
- Statement of dilution credit as 91:1 for whole effluent toxicity. “effluent concentration chronic toxicity test at the IWC of 1.1 percent effluent (dilution of 1/91, multiplied by 100 to convert into percent and then rounded)”. Part II. C. 3. Chronic WET Permit Limit, page 13 of 47
- Statement of dilution credit as 91:1 for ammonia. “Objective with 91:1 Dilution”. Appendix E. Tables I and II, page 45 of 57.

The Public Review Draft Fact Sheet (Attachment 12) accompanied the Public Review Draft NPDES Permit No. AS0020001. The following points are identified for reference:

- EPA updated the diffuser description based on ASPA comments to Pre-Public Review Draft. “The diffuser consists of six lateral ports, plus a separate ‘end gate’ port, and has a total length of approximately 42.6 feet, with the ports spaced approximately 7.1 feet apart. The ports have a diameter of 5.5 inches while the end gate port is 11 inches across”. Section II, page 2.
- EPA discussion of dilution credit as 91:1. Section IV.B.2, page 12
- EPA stated use of dilution credit of 91:1, acknowledgement of performing reasonable potential analysis, acknowledgement of 2011 AO dataset for TN and TP. Section IV.B.5, page 13
- EPA stated use of dilution credit of 91:1 to calculate TN and TP limitations. Section IV.C. Total Nitrogen and Total Phosphorous, page 15
- EPA statements on anti-backsliding. Section IV.D. *Anti-Backsliding*, page 16

ASPA submitted Comments on the Draft NPDES Permit for the Utulei STP on July 12, 2019 (Attachment 13), which included the following:

- Comment I.B-1 included statement “In addition, ASPA requests that the dilution credit be adjusted to 313:1 for the modified diffuser as described in detail in Comment 1.B-2 below”. page 2 of 6.
- Comment I.B-2 included statement “ASPA requests that Enterococci limitations be based on the reassessed dilution of 313:1 for the new diffuser configuration, as described in Comment I.B-3 below”. page 2 of 6.
- Comment I.B-3 contains detailed discussion of TN and TP and that exceedance will occur under the proposed effluent limitations. pages 2-4 of 6.
- Comment I.B-3 contains detailed discussion of requested dilution credit of 313:1. page 3 of 6.

- Comment II.C.3-1 contains discussion requesting whole effluent toxicity dilution credit be changed from 91:1 to 313:1. Page 6 of 6.

Final Renewal Permit

NPDES PERMIT NO. AS0020001 (Attachment 1) for the Utulei STP was issued on November 18, 2019 with an effective date of permit of January 1, 2020. The following points are identified for reference:

- Issued effluent limitation for nitrogen: Nitrogen, total (as N): average monthly limitation of 18,200 µg/L and a daily maximum concentration of 45,000 µg/L. Part I. B. Table 1, page 4 of 52.
- Issued effluent limitation for phosphorous: Phosphorous, total: average monthly limitation of 2,730 µg/L and a daily maximum concentration 8,190 µg/L. Part I. B. Table 1, page 5 of 52
- Whole effluent toxicity criteria based on dilution credit of 91:1 resulting in IWC of 1.09%. Part I. B. Table 1, Table Note (6), page 5 of 52
- Statement of dilution credit as 91:1 for whole effluent toxicity. Part II. C. 1, Page 13 of 52
- Whole effluent toxicity criteria based on dilution credit of 91:1 resulting in IWC of 1.09%. Part II. C. 4, page 14 of 52
- Statement of dilution credit as 91:1 for ammonia. Appendix E. Text and Tables I and II, page 48 of 52.

EPA issued a fact sheet (Attachment 14) which accompanied the renewal permit for the Utulei STP. The following points are identified for reference:

- EPA includes the description of the updated diffuser configuration: “The diffuser consists of six lateral ports, plus a separate ‘end gate’ port, and has a total length of approximately 42.6 feet, with the ports spaced approximately 7.1 feet apart. The ports have a diameter of 5.5 inches while the end gate port is 11 inches across”. Section II, page 2.
- EPA discussion of dilution credit as 91:1. Section IV.B.2, page 12
- EPA stated use of dilution credit of 91:1, acknowledgement of performing reasonable potential analysis, acknowledgement of 2011 AO dataset for TN and TP. Section IV.B.5, page 13
- EPA stated use of dilution credit of 91:1 to calculate TN and TP limitations. Section IV.C. Total Nitrogen and Total Phosphorous, page 15
- EPA statements on anti-backsliding. Section IV.D. *Anti-Backsliding*, page 16

EPA also issued A Response to Comments Document (Attachment 15) dated November 14, 2019 which accompanied the renewal permit for the Utulei STP. The following points are identified for reference:

- EPA Comment (F.1) responds to ASPA Comment I.B-2 regarding updated dilution credit from 91:1 to 313: 1 and rational for rejection based on anti-backsliding.
- EPA comment (G) responds to ASPA Comment I.B-3 regarding increased dilution credit for TN and TP and EPA’s rationale for rejecting the request.
- EPA Comment (U) responds to ASPA Comment II.C.3-1 regarding use of revised dilution credit of 313:1 and rational for rejection based on anti-backsliding.

ARGUMENT

The AO issued by EPA referenced above required sampling for TN, TP, and ammonia to provide information on effluent concentrations. The AO also required investigations to improve dilution performance and ASPA and EPA agreed that the reassessment of the diffuser configuration was the appropriate response. ASPA complied with these requirements and expended considerable time and funds. The diffuser was modified to improve dilution. ASPA updated the dilution modeling including the modified diffuser and recent more reliable and representative water column density profiles. EPA disregarded the resulting information in the development of the renewal permit stating anti-backsliding requirements.

Review of anti-backing requirements provided under the Clean Water Act (CWA) Section 402(o) clearly indicate that modifications to the diffuser promulgated under the AO and better density profile data clearly meet CWA Section 402(o)(2) EXCEPTIONS.

- Subsection (A) states *“material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of less stringent effluent limitations”*. The previous permit was issued October 4, 2001. Under the AO, issued July 27, 2011, ASPA had the diffuser evaluated and provided EPA with analysis reports supporting that increased dilution could be achieved by modifying the port diameters of the existing ports and adding an additional port to the diffuser. The modifications were implemented and increased the dilution to 313:1 (this is the calculated critical initial dilution under a maximum effluent flow rate of 6 million gallons per day).
- Subsection (B)(i) of 402(o)(2) EXCEPTIONS states *“information is available which was not available at the time of the permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance;”*. The dilution credit of 91:1 applied by EPA was based on very little receiving water hydrographic data (two density profiles collected at the discharge point). In 2005 ASPA hired consultants to implement semi-annual receiving monitoring. At the time of the diffuser assessment was performed, updated modeling was included in the assessment and utilized multiple years of high-quality density profile data collected between 2005 and 2012 from appropriate background stations around the discharge site. ASPA believes this much larger, higher quality, and more site appropriate density profile dataset used in the dilution modeling clearly meets the requirements Subsection (B)(i).

ASPA believes the modifications to the diffuser clearly meet the criterion of the CWA Section 402(o)(2)(A) and the use of the density profile data collected since 2005 used in the modeling of dilution clearly meets the exception criteria of CWA Section 402(o)(2)(B)(i). Therefore, EPA’s use of the outdated dilution credit of 91:1 and rejection of the updated dilution credit of 313:1 citing anti-backsliding restrictions is in error and the dilution credit of 313:1 should be applied to the development of effluent limitations.

It is noted that EPA recognized the increase in available dilution resulting from the reconfigured diffuser (conducted under the EPA AO) and use of updated receiving water density profiles as demonstrated in the EPA response to comments. However, EPA argued that the increased dilution could not be applied

because of the Clean Water Act anti-backsliding provisions. However, the the anti-backsliding provision clearly has exceptions that apply in this case. EPA's refusal to apply the increased dilution is arbitrary, not supportable, and in contradiction to the basis of the exceptions to anti-backsliding.

CONCLUSIONS

The permit should be redrafted by EPA to include the following:

[1] Effluent limitations for TN and TP should be based on the calculated reasonable potential effluent concentrations and a dilution credit of up to 313:1. ASPA recognizes that the actual dilution credit is that which is sufficient to meet the appropriate limitations, and the actual dilution credit required is less than 313:1 (and higher than 91:1 as currently applied by EPA).

[2] The IWC for toxicity should be based on the updated dilution credit of 313:1.

[3] The ammonia impact ratio dilution credit should be based on the updated dilution ratio of 313:1.

It is noted that the enterococcus limitation is also based on a dilution of 91:1. However, ASPA has demonstrated that it can meet the effluent limitation stated in the renewal permit and recognizes that a higher limitation is not appropriate.

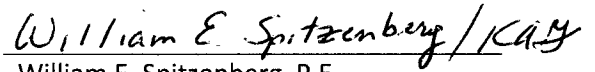
CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Petition for Review of the American Samoa Power Authority Utulei Sewage Treatment Plant NPDES Permit No. AS0020001, were served on the following persons, this 20th day of December 2019.

Via email (Petition Only: December 20, 2019)

FedEx (Petition plus Attachments on CD: December 23, 2019):

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STATEMENT OF COMPLIANCE WITH THE WORD/PAGE LIMITATION

In accordance with 40 C.F.R. §124.19(d)(1)(iv) and (d)(3), I hereby certify that this Petition does not exceed 14,000 words. Not including the transmittal letter, table of contents, table of authorities, figures, signature block, table of attachments, statement of compliance with the word limitation, and certification of service, this Petition contains ~3549 words.


William E. Spitzenberg, P.E.