NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
FINAL PERMIT FACT SHEET
October 2020

Permittee Name:	American Samoa Power Authority - Utulei Sewage Treatment Plant
Mailing Address:	P.O. Box PPB, Pago Pago, American Samoa 96799
Facility Location:	Tulutulu Point off Route 1, Utulei, Tutuila, American Samoa 96799
Contact Person(s):	William Spitzenberg, Wastewater Manager, (684)-733-3297; williams@aspower.com
NPDES Permit No.:	AS0020001

I. STATUS OF PERMIT

American Samoa Power Authority, also known as ASPA (the "permittee" or "discharger") has applied for the renewal of their National Pollutant Discharge Elimination System (NPDES) permit to authorize the discharge of treated effluent from the Utulei Sewage Treatment Plant (Utulei STP) to Pago Pago harbor, located near the center of the island of Tutuila, American Samoa. The permittee submitted an application on May 1, 2006, and subsequently updated in 2008 and 2016-17. During this period, the facility implemented major upgrades to its treatment system under an EPA administrative order. EPA accepted public comments on a draft permit from May 24 thru July 12, 2019, then proceeded to revise the draft based on those comments and issued the permit on November 18th, 2019. The discharger appealed four conditions of the permit to the Environmental Appeals Board (EAB) on December 20th, 2019. Specifically, ASPA sought review of the underlying dilution factor and resulting effluent limitations for Total Nitrogen (TN), Total Phosphorous (TP), ammonia, and Whole Effluent Toxicity (WET).

EPA withdrew the four contested provisions and provided notice thereof on January 16, 2020, pursuant to 40 CFR §124.19(j). As specified in 40 CFR § 124.16(a)(2), EPA determined that all remaining permit provisions were uncontested and severable and became fully effective and enforceable on February 15, 2020, 30 days after the notice of withdrawal. On January 22, 2020, the EAB granted EPA's motion to dismiss ASPA's petition as moot given that EPA had withdrawn the contested provisions.

Consistent with 40 CFR § 124.19(j), EPA is now providing public notice and opportunity for comment regarding the four draft provisions that EPA withdrew as outlined above. EPA is also updating the permit to reflect one minor modification, which pursuant to 40 CFR § 122.63, is immediately effective and not subject to public comment. All other provisions of the permit have gone into effect and are not subject to public comment at this time. The first table below provides a summary of the changes to the draft permit provisions subject to public comment and the second table summarizes the minor modifications to the permit that are immediately effective.

Table of Draft Permit Provisions Subject to Public Comment

Modified Permit or Fact Sheet element[1]	Permit / Fact Sheet section reference	Page # in permit / FS	Authority for, and Description of, permit modification	Rationale
Permit Nutrient and ammonia Limits, and Whole Effluent Toxicity (WET) IWC factor	Permit Part I.B, Table 1, entries for Nitrogen and Phosphorous, Part II.C IWC values, and values in Attachment E tables for ammonia and Fact Sheet sections VI.B.2, VIB.5, VI.C, VI.D, and VIII.C	Permit pages 5-6, 14-15, and Attachment E and Fact Sheet pages 14-16, 18-23	40 CFR §122.62(a)(2) – New information from the discharger that was not considered in EPA's previous modeling has led to a re-evaluation of the critical dilution factor achievable for these parameters. And 40 CFR §122.62(a)(2) – New information Revised dilution factor affecting the IWC value for Whole Effluent Toxicity (WET) test procedures	EPA's had initially included a dilution factor of 91:1. On appeal, EPA has re-evaluated the performance of the recently modified diffuser and finds that an increase in Critical Initial Dilution to 121:1 is appropriate. EPA has revised limits for these four parameters accordingly, including the new dilution factor's effect on the IWC for toxicity tests.
Permit - Inclusion of missing ammonia Data Log column (Salinity)	Permit Attachment D	Permit page 48	40 CFR §122.62(a)(3)(i)(A) – New Regulations - updated ASWQS	New ASWQS for ammonia incorporate the additional variable of salinity, making it necessary to include a column for salinity in the Ammonia Impact Ratio Data Log.
Permit - Inclusion of expanded ASWQS Ammonia Standards Table	Permit Attachment E	Permit pages 49-51	40 CFR §122.62(a)(3)(i)(A) – New Regulations - updated ASWQS	The permit incorporates the ASWQS ammonia standard, from AS Administrative Rule ASAC Title 24 Chapter 2, Appendix A. These changes to the standard were made by ASEPA and

[1] Only the enumerated sections of this Fact Sheet have been revised. All remaining sections of this Fact Sheet were developed to explain the conditions of the Permit issued on November 18, 2019 and refer to the status of the discharging facility at that time.

Modified Permit or Fact Sheet element[1]	Permit / Fact Sheet section reference	Page # in permit / FS	Authority for, and Description of, permit modification	Rationale
				approved by USEPA on August 4, 2020.

Table of Minor Modifications that are Immediately Effective (Not Subject to Public Comment)

Modified Permit or Fact Sheet element[1]	Permit / Fact Sheet section reference	Page # in permit / FS	Authority for, and Description of, permit modification	Rationale
Permit - Inclusion of missing Ammonia Data Log column (Temperature)	Permit Attachment D	Permit page 48	40 CFR §122.63(a) – Typographical correction - re-insertion of missing column for Temperature data	The example Ammonia Data Log table now includes Column D (temperature). Column D was previously missing due to a typographic error.

EPA Region 9 has developed this permit and fact sheet pursuant to Section 402 of the Clean Water Act, which requires point source dischargers to control the amount of pollutants that are discharged to waters of the United States through obtaining a NPDES permit.

The permittee is currently discharging under NPDES permit AS0020001 issued on November 18, 2019 and effective on January 1, 2020, with the exception of the four withdrawn provisions.[2] Until EPA finalizes the four draft permit provisions that were withdrawn, the corresponding provisions from the previous permit apply as follows: 1) Parts A.1.a and A.4 of the 2001 permit will apply in place of the withdrawn Whole Effluent Toxicity requirement; 2) Part A.3.d of the 2001 permit will apply in place of the withdrawn Total Phosphorous requirements; 3) Part A.3.e will apply in place of the withdrawn Total Nitrogen requirements; and.

This permittee has been classified as a Major discharger.

[1] Only the enumerated sections of this Fact Sheet have been revised. All remaining sections of this Fact Sheet were developed to explain the conditions of the Permit issued on November 18, 2019 and refer to the status of the discharging facility at that time.

II. SIGNIFICANT CHANGES TO PREVIOUS PERMIT

Permit Condition	Previous Permit	Re-issued permit	Reason for change
ammonia effluent limit	No limit or monitoring requirement	Effluent limits and monitoring requirements for ammonia monitoring have been added to the permit. Compliance with the ammonia effluent limit will be determined using the Ammonia Impact Ratio ("AIR"). The permit limit is set to a value of 1.0. The permittee must also continue to monitor and report ammonia effluent values in addition to the AIR value.	Reasonable potential to exceed WQS. The AIR makes determination and reporting of compliance easier than floating limits based on pH and temperature.
Total Nitrogen and Total Phosphorus effluent limits	No limit or monitoring requirement	Effluent limits and monitoring requirements for TN and TP have been added	Reasonable potential to exceed WQS
Enterococcus effluent limits	No limit or monitoring requirement, except receiving water monitoring	Effluent limits and monitoring requirements for enterococcus have been added	Reasonable potential to exceed WQS
Chronic toxicity effluent limit	No limit, only monitoring with trigger	Effluent limits and monitoring requirements for chronic toxicity have been added	Reasonable potential to exceed WQS
BOD and TSS effluent limits	Effluent limits and monitoring requirements	Mass-based effluent limits adjusted to reflect 3.0 mgd flow	Increase in flow
Temperature monitoring	No temperature monitoring required	Temperature monitoring requirement added	Temperature data are required for determining compliance with the ammonia limit
Receiving Water Monitoring Program updated	The previous permits contained a receiving water monitoring program which did not include Zone of Initial Dilution (ZID) stations	Requirements for the receiving water monitoring program have been updated to include ZID stations	The §301(h) regulations determine compliance with several monitoring parameters at the boundary of the ZID. The existing monitoring program does not collect data at the ZID, and correcting this omission will make it easier for the discharger to track compliance.

Operations and Maintenance reopener provision	The previous permit contained no specific provisions for Operations and Maintenance (O&M)	The new permit includes an explicit reopener provision for addressing O&M deficiencies	Maintenance problems with clarigesters identified by EPA during recent site visits, as well as the high anticipated O&M burden of the UV disinfection system, make this an aspect of the treatment plant which requires close attention. EPA has specifically provided for modification of the permit if O&M problems are identified in future.
Best Management Practices (BMPs)	The previous permit contained no specific BMPs	New permit adds an explicit BMP requirement for daily review of UV transmissivity and an absence of solids deposition in the disinfection system	UV disinfection systems are highly reliant on having high UV transmissivity (clear effluent) to work effectively, and the combination of primary treatment with UV disinfection at Utulei STP is unusual in this regard. Therefore, the new permit contains BMPs to require daily logging of the UV transmissivity to identify and correct any problems.
Sanitary Sewer Overflow provisions	The previous permit did not explicitly address sanitary sewer overflows.	The new permit incorporates sanitary sewer overflow restrictions and reporting requirements	Sanitary Sewer Overflow provisions are now a standard part of EPA NPDES permits
Asset Management provisions	The previous permit did not explicitly address asset management.	The new permit incorporates standard asset management requirements for small utilities	Asset management is a proven approach which reduces both accidental discharges and maintenance costs over the long term. The Utulei STP's resource situation and past maintenance challenges make it a good candidate to benefit from EPA's free small-system asset management tool.
Capacity Attainment and Planning provision	The previous permit did not include a notification requirement for dry-weather flows approaching the facility's maximum treatment capacity	The new permit includes a notification requirement for dry-weather flows approaching the facility's maximum treatment capacity	When dry-weather flows come close to a treatment plant's maximum capacity, expansion of the treatment plant is an eventuality both the discharger and EPA often need to begin planning for. This notification requirement ensures adequate advance notice.

III. GENERAL DESCRIPTION OF FACILITY

The Utulei STP is located in the township of Utulei on Tutuila Island, the largest and principal island of American Samoa. Utulei STP is a primary treatment plant that collects and treats wastewater from several nearby residential areas and the downtown area. The service area includes the villages of Faga'alu (including the hospital), Utulei, Fagatogo, Pago Pago (both upper and lower parts of the village), and Atu'u (including the sanitary wastewater from the two local tuna canneries). The service area also includes the villages of Leloaloa, Au'a, and Onesosopo which are not yet connected but were included in the original design of the Harbor Sewer System and the Utulei STP, and for which connection work is ongoing. In the application, the applicant indicated that the wastewater collected from these areas is largely organic and domestic in nature (ASPA 2006). Domestic wastewater includes waste or wastewater from humans or household operations that is discharged to or otherwise enters the treatment plant (40 CFR 122.2). In the application, the applicant indicated that there are currently no industrial sources of wastewater that flow to the treatment plant and none planned in the near future. The Plant currently serves a population of approximately 13,000 people.

The plant provides grit removal, primary sedimentation, anaerobic sludge digestion, and ultraviolet (UV) disinfection prior to discharge into outer Pago Pago Harbor. Influent enters the plant at the influent wet well, which contains four submerged variable speed pumps. As influent exits the wet well, it is screened through a rock basket with two-inch square mesh. Influent is then pumped into an elevated grit channel. Additional grit is removed at the headworks. The plant's primary treatment unit is the clarigester. Clarigesters consist of an upper clarifier that removes settleable solids and skims off floatables and a lower anaerobic digester that settleable solids are funneled directly into. Gas from the digesters is vented near the top of the clarigesters. Following primary clarification, flow converges and continues to an elevated UV channel.

Attachment B to the permit, Figure 1, identifies the locations of the facility and Figure 2 details the location of the outfall. Attachment C to the permit shows a diagram of the facility, including the UV disinfection system installed in 2016. The UV disinfection system consists of a repurposed contact chamber containing 4 banks of 18 UV lamps each, with a design capacity great enough to handle the 6 MGD (Million Gallons per Day) maximum design flow of the treatment plant.

After treatment, the Utulei STP discharges treated effluent directly into Pago Pago Harbor through a 21-inch high-density polyethylene pipe and outfall. The terminus of the outfall is located approximately 954 feet off of Tulutulu Point in outer Pago Pago Harbor at a depth of 150 feet. This places the end of the outfall at 14º 16’ 59.6” South latitude and 170º 40’ 28.1” West longitude. Effluent is discharged horizontally in alternatively opposite directions through a linear multiport diffuser. 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. The average depth of the ports is 145 feet.

The existing outfall and diffuser first began operation in 1996 and were constructed to improve the discharge by enhancing the initial dilution and dispersal of pollutants in the receiving water. The improvements included a 47 foot diffuser with six ports to enhance dilution and mixing

within the water column. Sludge from the primary treatment process is transported to the Tafuna STP on the southwestern portion of the island where it is treated by anaerobic digestion and placed in drying beds until landfill disposal. The climate in American Samoa is characterized as the humid tropics with wet weather occurring on a year-round basis. Therefore, no peak dry weather periods (seasons, often monsoonal) occur as observed on other Pacific Islands. Note that this does not preclude analysis of "dry weather" flow characteristics at the treatment plant (i.e. treatment plant flows during periods of minimum inflow and infiltration), as there are still shorter periods of limited or no rain on the island.

IV. DESCRIPTION OF RECEIVING WATER

Utulei STP discharges into the outer portion of Pago Pago Harbor. Pago Pago Harbor is located on the southeastern portion of Tutuila Island in American Samoa and empties into the South Pacific Ocean. In the application, the applicant indicated that outer Pago Pago Harbor has characteristics similar to open coastal ocean waters and is not characteristic of an estuarine system.

The American Samoa Government designated Pago Pago Harbor to be developed into a transshipment center for the South Pacific. The AS Environmental Quality Commission has developed a separate set of standards for Pago Pago Harbor due to its unique position as an embayment where water quality has been degraded from the natural condition (ASEQC, 2013).

Protected uses for Pago Pago Harbor include:

(i) Recreational and subsistence fishing except for exclusions as specified under federal regulations such as no take zones;

(ii) Boat-launching ramps and designated mooring areas;

(iii) Subsistence food gathering; e.g. shellfish harvesting except for exclusions as specified under federal regulations such as no take zones;

(iv) Aesthetic enjoyment;

(v) Whole and limited body-contact recreation, e.g. swimming, snorkeling, and scuba diving;

(vi) Support and propagation of marine life;

(vii) Industrial water supply;

(viii) Mariculture development except for exclusions as specified under federal regulations such as no take zones;

(ix) Normal harbor activities; e.g. ship movements, docking, loading and unloading, marine railways and floating drydocks; and

(x) Scientific investigations.

Pago Pago Harbor is listed as impaired for certain pollutants according to the CWA Section 303(d) List of Water Quality Limited Segments, and Total Maximum Daily Load (TMDL) requirements have been developed for those pollutants. Ocean Shorelines in the Pago Pago watershed are listed as impaired for enterococci and the inner harbor (this facility discharges to the outer harbor) is listed for lead, mercury, and PCBs. Note that in the 303(d) listing document, streams within the same watershed identifier (#24) are additionally listed as impaired for

nutrients (Total Nitrogen, TN, and Total Phosphorous, TP), turbidity, and Dissolved Oxygen but these additional impairments do not apply to the sea-water segment of the harbor to which the Utulei STP discharges. The only 303(d)-listed pollutant for which the Utulei STP has a potential to be a source is enterococci, and the limits specified in the TMDL are identical to those specified in the American Samoa Water Quality Standards (ASWQS). Therefore, compliance with ASWQS for Enterococci will ensure compliance with the requirements of the TMDL.

V. DESCRIPTION OF DISCHARGE

The Utulei STP is designed to provide primary treatment (30% removal of Biochemical Oxygen Demand, (BOD), and Total Suspended Solids, (TSS)) as well as disinfection before discharge. The Plant is designed so that influent is screened, and then the flow is split across 4 parallel clarigesters for treatment. After treatment in the clarigesters, the effluent passes through a newly installed UV disinfection system. Discharge is to an outfall in the ocean-mixed outer Pago Pago Harbor area. The terminus of the outfall is located approximately 954 feet off of Tulutulu Point in outer Pago Pago Harbor at a depth of 150 feet; see Attachment B in the permit, figure 2, for a map of the outfall location.

The use of primary treatment instead of secondary treatment was due to the tightly limited resources and support base available in American Samoa. This practice is allowed under CWA §301(h). EPA granted the facility a variance pursuant to CWA §301(h) when it was initially permitted in 1985 and has re-evaluated and renewed the variance with each permit reissuance since that time.

American Samoa water quality standards for various parameters, particularly nutrients and bacteria, have grown more stringent since the facility was initially permitted. Compliance with these increasingly stringent requirements has grown more difficult for the treatment system to achieve. A major refit which altered the permitting context was the construction of the offshore diffuser in 1996 to increased available dilution.

In 2009, EPA issued public notice of tentative decisions to deny renewal of the facility's §301(h) variance due to inability to consistently meet American Samoa's bacteria and nutrient standards. Since 2009, EPA has been working with the applicant to collect additional data, conduct modeling, and upgrade treatment at the Utulei STP. As a result, the quality of the discharge has improved, and more thorough and representative data are now available.

EPA issued an Administrative Order on July 27, 2011 stipulating actions and a timeline on which to bring the Utulei STP into compliance and make renewal of the 301(h) variance possible. Upgrades were finally completed in 2016 and, after 1 year of data collection with the upgraded treatment system in place, data now show compliance with American Samoa water quality standards. Therefore, EPA is proposing to reissue this permit with renewal of the §301(h) variance from secondary treatment.

A. Application Discharge Data

As part of the application for permit renewal, the permittee provided data from an analysis of the facility's treated wastewater discharge, shown in Table 1. As material changes to the

treatment system have been implemented since the application was submitted, EPA does not consider these data to be representative of the current discharge and therefore has not included them in the analysis below. Note that toxicity data are considered separately in section VI(B)(5) of this Fact Sheet.

Table 1. Application Discharge Data.

Parameter	Units	Discharge Data[1]	
		Maximum Daily Discharge	Average Daily Discharge
Flow	MGD	3.42	1.19
pH	Standard Units	6.5 to 8.6 (min-max)	
Biochemical Oxygen Demand, 5-day (BOD_5)	mg/L	94	61.7
Total Suspended Solids (TSS)	mg/L	74	26.4
Ammonia (as N)	mg/L	23.3	22.5
Total Kjeldahl Nitrogen	mg/l	67.1	50.8
Total Phosphorus	mg/l	2.81	2.72
Total Residual Chlorine	mg/L	Not monitored	
Oil and Grease	mg/L	6.3	5.9
Settleable solids	ml/l	0.5	0.13
Copper	ug/l	6.1	--
Mercury	ug/l	0.24	0.152
Zinc	ug/l	28.5	28.1
Chlorobenzene	ug/l	0.21	--
Chloroform	ug/l	1.5	--
Methylene chloride	ug/l	0.42	--
Toluene	ug/l	2.3	1.41
4-nitrophenol	ug/l	13	--
Phenol	ug/l	32	22
Bis (2-ethylhexyl)phthalate	ug/l	12	10.3
1,4-Dichlorobenzene	ug/l	4.3	3.3
Diethyl phthalate	ug/l	4.4	3.95
Fluorene	ug/l	0.38	--
Phenanthrene	ug/l	0.56	--

[1] Based on permittee's NPDES renewal application.

B. Recent Discharge Monitoring Report (DMR) Data (2007-2017)

Table 2 provides a summary of effluent limitations and monitoring data based on the facility's most recent 10 years of DMRs (2007 to 2017).

Table 2. Discharge Monitoring Report Data for years 2007-2017.

Parameter	Units	Current Permit Effluent Limitations			Discharge Monitoring Data		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly	Highest Average Weekly	Highest Maximum Daily
Flow Rate	MGD	Monitoring Only	--	Monitoring Only	2.6	--	6.1[(1)]
Biochemical Oxygen Demand (5-day)	mg/L	78.3	117	157	Before treatment upgrade		
					88	107	110
					After treatment upgrade		
					67	99	99
	lbs/day	1085	1628	2170	Before treatment upgrade		--
					1423	3182	
					After treatment upgrade		
					1023	1569	
	Percent Removal	Both the influent and the effluent shall be monitored. The arithmetic mean of the BOD_5 values, by concentration, for effluent samples collected over a calendar month shall not exceed 70 percent of the arithmetic mean, by concentration, for influent samples collected at approximately the same times during the same period (i.e. 30 percent BOD_5 removal).			Minimum monthly average % removal was 32.9 % removal		
Settleable Solids	mL/L	1	--	2	0.2	--	1.1
Total Suspended Solids	mg/L	75	113	150	Before treatment upgrade		
					64	89	--
					After treatment upgrade		
					47	63	63
	lbs/day	1377	2065	2754	Before treatment upgrade		--
					805	1171	
					After treatment upgrade		
					773	1151	

Parameter	Units	Current Permit Effluent Limitations			Discharge Monitoring Data		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly	Highest Average Weekly	Highest Maximum Daily
	Percent Removal	Both the influent and the effluent shall be monitored. The arithmetic mean of the TSS values, by concentration, for effluent samples collected over a calendar month shall not exceed 70 percent of the arithmetic mean, by concentration, for influent samples collected at approximately the same times during the same period (i.e. 30 percent TSS removal).			5.4% minimum monthly reported; however, appears to be error, as influent and effluent data for the same month represent a 57.9% removal		
pH	Standard Units	Not < 6.5 SU, Not > 8.6 SU; discharge shall not change pH in receiving water by more than 0.2 SU			6.5 – 7.6 (min-max)		
Chronic Toxicity	TUc	Monitoring only			666.7		
Oil & Grease	mg/l	Monitoring only			28		

(1) note that one mistyped report of "11.4 MGD" daily maximum flow , in August 2008, has been revised to 1.4 MGD.

VI. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS

EPA has developed effluent limitations and monitoring requirements in the permit based on an evaluation of the technology used to treat the pollutant (e.g., "technology-based effluent limits") and the water quality standards applicable to the receiving water (e.g., "water quality-based effluent limits"). EPA has established the most stringent of applicable technology-based or water quality-based standards in the proposed permit, as described below.

A. Applicable Technology-Based Effluent Limitations

Publicly Owned Wastewater Treatment Systems (POTWs)

EPA developed technology-based treatment standards for municipal wastewater treatment plants in accordance with Section 301(b)(1)(B) of the Clean Water Act. As the Utulei STP continues to operate under a §301(h) variance from secondary treatment requirements, the facility is permitted to discharge primary-treated effluent through its ocean outfall in accordance with the requirements under 40 CFR 125.58(r) and the limitations below, which have been carried over from the previous permit. In addition, mass limits, as required by 40 CFR 122.45(f), are included for BOD_5 and TSS and have been calculated to reflect the increase in flow to 3MGD.

BOD_5

Concentration-based Limits

30-day average – 78.3 mg/L
7-day average – 117 mg/L
Daily maximum – 157 mg/L
Removal Efficiency – minimum of 30%

Mass-based Limits

30-day average – (78.3 mg/L)(3 MGD)(8.345 conversion factor) = 1,960 lbs/day
7-day average – (117 mg/L)(3 MGD)(8.345 conversion factor) = 2,929 lbs/day
Daily maximum – (157 mg/L)(3 MGD)(8.345 conversion factor) = 3,930 lbs/day

TSS

Concentration-based Limits

30-day average – 75 mg/L
7-day average – 113 mg/L
Daily maximum – 150 mg/L
Removal efficiency – Minimum of 30%

Mass-based Limits

30-day average – (75 mg/L)(3 MGD)(8.345 conversion factor) = 1,878 lbs/day
7-day average – (113 mg/L)(3 MGD)(8.345 conversion factor) = 2,829 lbs/day
Daily maximum – (150 mg/L)(3 MGD)(8.345 conversion factor) = 3,755 lbs/day

pH

Instantaneous Measurement: 6.0 – 9.0 standard units (S.U.) – superseded by more stringent American Samoa Water Quality Standards, as described below.

Technology-based treatment requirements may be imposed on a case by case basis under Section 402(a)(1) of the Act, to the extent that EPA promulgated effluent limitations are inapplicable (i.e., the regulation allows the permit writer to consider the appropriate technology for the category or class of point sources and any unique factors relating to the applicant) (40 CFR 125.3(c)(2)).

The minimum levels of effluent quality attainable by secondary treatment for Settleable Solids, as specified in the EPA Region IX Policy memo dated May 14, 1979, are listed below:

Settleable Solids
30-day average – 1 mL/L
Daily maximum – 2 mL/L

Therefore, effluent limits for BOD_5, TSS, pH, and Settleable Solids are established in the permit as stated above.

B. Water Quality-Based Effluent Limitations

Water quality-based effluent limitations are required in NPDES permits when the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any water quality standard (40 CFR 122.44(d)(1)).

When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water (40 CFR 122.44(d)(1)(ii)).

EPA evaluated the reasonable potential to discharge toxic pollutants according to guidance provided in the *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (Office of Water Enforcement and Permits, U.S. EPA, March 1991) and the *U.S. EPA NPDES Permit Writers Manual* (Office of Water, U.S. EPA, December 1996). These factors include:

1. Applicable standards, designated uses and impairments of receiving water
2. Dilution in the receiving water
3. Type of industry
4. History of compliance problems and toxic impacts
5. Existing data on toxic pollutants - Reasonable Potential Analysis

1. Applicable Standards, Designated Uses and Impairments of Receiving Water

The American Samoa Water Quality Standards, Administrative Rule No. 001-2013 (last updated 2013) establish water quality criteria for the following beneficial uses in Pago Pago Harbor, to which the Utulei STP discharges:

(A) Recreational and subsistence fishing except for exclusions as specified under federal regulations such as no take zones;
(B) Boat-launching ramps and designated mooring areas;

(C) Subsistence food gathering; e.g. shellfish harvesting except for exclusions as specified under federal regulations such as no take zones;
(D) Aesthetic enjoyment;
(E) Whole and limited body-contact recreation, e.g. swimming, snorkeling, and scuba diving
(F) Support and propagation of marine life;
(G) Industrial water supply;
(H) Mari-culture development except for exclusions as specified under federal regulations such as no take zones;
(I) Normal harbor activities; e.g. ship movements, docking, loading and unloading, marine railways and floating drydocks; and
(J) Scientific investigations.

Pago Pago Harbor is listed as impaired according to the CWA Section 303(d) List of Water Quality Limited Segments. Ocean Shorelines in the Pago Pago watershed are listed as impaired for enterococci and the inner harbor (this facility discharges to the outer harbor) is listed for lead, mercury, and PCBs. Note that streams within the same watershed identifier (#24) are additionally listed as impaired for nutrients (TN, TP), turbidity, and Dissolved Oxygen but these additional impairments do not apply to the sea-water segment of the harbor to which the Utulei STP discharges. The only 303(d)-listed pollutant for which the Utulei STP has a potential to be a source is enterococci, and the limits specified in the TMDL are identical to those specified in the American Samoa Water Quality Standards (ASWQS). Therefore, compliance with ASWQS for Enterococci will ensure compliance with the requirements of the TMDL.

2. Dilution in the Receiving Water

The discharge from Outfall 001 is to outer Pago Pago Harbor adjoining the South Pacific Ocean, where regular currents and a diffuser installed approximately 1000 feet offshore at 150 feet deep ensure effective dilution and providing the basis for this 301(h)-modified permit. In accordance with EPA's §301(h) Amended Technical Support Document (ATSD), EPA reviewed the calculation of initial dilution and trapping depth under both the proposed daily average flow and critical flow scenarios provided by ASPA. Based on its initial review, EPA concluded that available modeling supported an average initial dilution of 127:1 and a critical initial dilution of 91:1. However, Section 301(h) regulations require that the applicant's diffuser be located and designed to provide initial dilution, dispersion, and transport sufficient to ensure compliance with water quality standards at the ZID boundary under *critical conditions* (see 40 CFR 125.62(a)(1)(iv)). On this basis, EPA has evaluated compliance with section 301(h) regulations based only on the critical initial dilution of 91:1 and found that permit limits could be met using this dilution alone.

Based on information provided by ASPA on the upgraded diffuser, EPA concluded that the critical value for initial dilution for the discharge is 121:1. To determine this value, EPA contracted dilution modeling experts MixZon, Inc. to assess the critical initial dilution based on the same data sets and design parameters provided by the discharger using a more detailed modeling software (CORMIX) and making efforts to account for several additional factors, including but not limited to reef proximity, plume behavior, and possible alternate critical conditions. Based on a sensitivity analysis using nine separate cases in the model using a range of input values provided by the discharger, and in consultation with modeling experts from both MixZon, EPA modeling experts determined that this was the most conservative (lowest) dilution predicted for the total flow through the modified diffuser. The specific behavior predicted by the

model was one of several cases of plume surfacing, here with a plume centerline depth shallower than 2 feet, and the plume's predicted vertical spread significantly exceeding that separation (over 8 feet) therefore triggering the criterion that initial dilution ends as soon as the plume surfaces or density effects cease to drive plume rise. EPA judged the particular model run resulting in plume surfacing and 121:1 dilution to be most representative of critical initial dilution because, among many factors, it used direct density profile data as opposed to a temperature-salinity parametrization, was well within the range of dilutions established by flow-averaging dilution from port-by-port models of predicted diffuser behavior, and was consistent with the parametrization recommendations of the CORMIX software.

Additionally, the recent Endangered Species Act listing of several corals present in the waters around American Samoa (see section X.B of this fact sheet) made it imperative that EPA's assessment ensure the effluent plume did not pose a risk of impinging upon nearby reefs, some of which are present in close proximity to the discharge point. The results of EPA's re-modeling of the discharge in CORMIX provide confidence that the credited dilution value (121:1) occurs before any potential impingement of the plume upon the nearby reefs, thereby ensuring that the reefs are not subjected to pollutant levels in excess of the protective ASWQS.

ASPA appealed only the dilution values used to calculate the effluent limits for Total Nitrogen, Total Phosphorous, ammonia, and Whole Effluent Toxicity).EPA has now revised the dilution values for these four parameters. The dilution value of 91:1 approved in November 2019 is achievable and still applies to all other parameters, excluding those for which no dilution was credited (pH, oil & grease). The effluent limits for all parameters other than Nitrogen, Phosphorous, ammonia, and Whole Effluent Toxicity remain unchanged. For more information, see the detailed analysis of dilution in the accompanying 2019 Utulei 301(h) Final Decision Document.

3. Type of Industry

Typical pollutants of concern in untreated and treated domestic wastewater such as that discharged by the Utulei STP include ammonia, nutrients, oxygen demand, pathogens (bacteria such as enterococci), temperature, pH, oil and grease, and solids. Chlorine and turbidity may also be of concern due to treatment plant operations. This permit incorporates limits and/or monitoring requirements for all these parameters except Chlorine, because that chemical is known not to be in use at the Utulei treatment plant.

4. History of Compliance Problems and Toxic Impacts

The Utulei STP has historically shown very high levels of enterococci bacteria as well as high levels of Nitrogen. These elevated levels led directly to EPA's 2009 tentative decision and 2011 administrative order. Toxic impacts were also infrequently measured. However, as described in the 2019 Utulei 301(h) Final Decision Document, the treatment upgrades have improved compliance with enterococcus water quality standards, and recent data has shown improvements in other areas. In addition, this permit includes limitations to ensure protection of water quality for all these pollutants.

5. Existing Data on Toxic Pollutants

For pollutants with effluent data available, EPA has conducted an analysis of reasonable potential to comply with water quality standards incorporating the dilution available to the discharger from their approved mixing zone. The maximum effluent concentrations were taken

from the last five years of DMRs, including data reported in accordance with the 2011 Administrative Order. EPA calculated the projected maximum effluent concentration for each pollutant using the following equation:

Projected maximum concentration = C_e ÷ *available dilution (121:1 for Total Nitrogen, Total Phosphorous, Chronic Toxicity, and ammonia; 91:1 for all other parameters).*

Where, "C_e" is the reported maximum effluent value.

Summary of Effluent Data Analysis:

Parameter	Maximum Observed Effluent Concentration	Projected receiving water concentration after 91:1 dilution (or 121:1 where noted[2])	Most Stringent Applicable Water Quality Criterion	Reasonable Potential?
BOD_5	110 mg/L	1.21 mg/L	No applicable WQS	N/A
TSS	89 mg/L	0.98 mg/L	No applicable WQS	N/A
Enterococci[1]	3262 CFU / 100 mL	35.8 CFU/100 mL	35 CFU / 100 mL	Y
Settleable Solids	1.10 ml/L	0.012 ml/L	No applicable WQS	N/A
Total Nitrogen[1,2]	20,000 µg/l	280.5 µg/l	200 µg/l	Y, See discussion in section C below
Total Phosphorous[1,2]	5,300 µg/l	43.8 µg/l	30 µg/l	Y
Chronic Toxicity[2]	666.7 TU_c	5.51 TU_c	1.0 TU_c	Y
Ammonia[1,2,3]	20,000 ug/l	165 ug/l	Depends on pH and temperature data	Y
pH	Minimum of 6.9 and Maximum of 7.6	N/A	Minimum of 6.5 and Maximum of 8.6	N
Oil & Grease	28	N/A	Narrative WQS	Y

[1] Data from monitoring required by 2011 Administrative Order
[2] Dilution factor for TN, TP, ammonia, and WET is 121:1
[3] Note that the ammonia standards tables in the ASWQS are expressed in terms of ammonia-as-NH_3, whereas this permit expresses limits in terms of ammonia-as-N for consistency with other permits. The difference is units is

converted using a simple multiplier equal to the ratio of molecular masses of N to NH_3. ASWQS have identified the multiplier as 0.822.

C. Rationale for Numeric Effluent Limits and Monitoring

EPA evaluated the typical pollutants expected to be present in the effluent and selected the most stringent of applicable technology-based standards or water quality-based effluent limitations. Where effluent concentrations of toxic parameters are unknown or are not reasonably expected to be discharged in concentration that have the reasonable potential to cause or contribute to water quality violations, EPA may establish monitoring requirements in the permit. Where monitoring is required, data will be re-evaluated and the permit may be re-opened to incorporate effluent limitations as necessary.

Flow

Flow rates must be monitored and reported to ensure any beyond-capacity situations are planned for, monitored, and tracked. Monitoring is required continuously with reporting of monthly and weekly averages, and daily maximum flow levels.

BOD_5 and TSS

Limits for BOD_5 and TSS are established for POTWs as described above under "technology-based effluent limitations" and are incorporated into the permit. The same concentration-based limitations have been carried over from the previous permit. Under 40 CFR Section 122.45(f), mass limits are also required for BOD_5 and TSS. Based on the proposed end-of-permit-term flow of 3.0 MGD, the mass-based limits have also been calculated as shown above and are included in the proposed permit.

Enterococci

Bacteria are a common component of wastewater discharge and of particular concern for their potential effect on human health. Enterococci are commonly used as indicator organisms for bacteria levels in a discharge. As shown above, there is reasonable potential for the discharge to cause or contribute to an excursion above the water quality standards for enterococcus. The permit implements the two distinct ASWQS bacteria standards for enterococci, which embody different statistical approaches, as a pair of limits. The 90%-of-samples-not-to-exceed standard is a direct conversion of the statistical threshold value for Pago Pago Harbor by the approved dilution factor (130 CFU/100 mL * 91:1 = 11,830 CFU/100 mL before dilution), based on the definition of "statistical threshold value" in §24.0201 of the ASWQS. The Median-not-to-exceed value in the permit addresses the stipulation in the ASWQS implementation guidance of March 2014 that "For NPDES permittees, permit compliance for marine receiving waters shall be determined utilizing the geometric mean of all discrete measurements (all depths, all stations, as required in the permit) over a 30 day period." The geometric mean standard for bacteria in Pago Pago Harbor in the ASWQS is 35 per 100 mL. Because monitoring is conducted by the permittee only once per month, there would be no data to calculate a representative geometric mean from multiple samples, but the geometric mean standard as specified in the ASWQS would still apply. Translating this value by the approved dilution factor results in a monthly permit limit of (35 * 91) = 3,185 CFU/100 mL, which EPA has used Best Professional Judgement to implement as a limit on the average monthly concentration in the absence of sufficient data to calculate a true geometric mean from multiple data points per month.

Settleable Solids

Limits for Settleable Solids are established for POTWs based on the technology-based effluent limits defined for primary treatment, as described above. Applicable limits have been carried over from the previous permit.

Total Nitrogen and Total Phosphorous

Nitrogen and Phosphorous are nutrients which are often over-abundant in biological wastes like domestic wastewater. Discharging such elevated levels of nutrients to natural waters can lead to the growth of nuisances like algae blooms and other undesirable effects, as well as potentially depleting the dissolved oxygen levels in the receiving water and suffocating marine life. As shown in the reasonable potential analysis above, the facility has a reasonable potential to cause or contribute to an excursion above water quality standards for Phosphorous.

In the case of Nitrogen, applying the statistical factor recommended in the EPA Technical Support Document for Water-Quality Based Toxics Control (EPA, 1991) also indicates a reasonable potential to exceed the ASWQS for Total Nitrogen. There is an available data set of n=12 Total Nitrogen samples post-dating the treatment plant upgrades, which were collected as required under EPA's 2011 Administrative Order. Those data points show a Coefficient of Variation (CV) of 0.345. The Reasonable Potential analysis procedure specified in the EPA Technical Support Document for Water-Quality Based Toxics Control (EPA/505/2-90-001, page 54) recommends applying a statistical Multiplying Factor of not less than 1.7 (for CV between 0.3 and 0.4 and n=12) to the projected receiving water concentration(s) to account for the low number of data points. In that context, (165 µg/L * 1.7) = 280.5 µg/L as a statistical reasonable potential concentration, greater than the most stringent water quality criterion of 200 µg/L, and therefore indicating there remains a statistical reasonable potential for the discharge to exceed the ASWQS for Total Nitrogen.

EPA has considered the revised dilution value of 121:1 and determined that there is reasonable potential for Total Phosphorous and Total Nitrogen in the discharge to exceed standards. Therefore, the permit includes effluent limits consistent with the ASWQS. Limits were calculated as follows:

Concentration-based Effluent Limit (mg/L) = ASWQS * dilution factor (121:1)

Phosphorous median standard (30 µg/L) * 121 = 3,630 ug/L, implemented as a monthly average permit limit.

Phosphorous 2% not-to-exceed standard (90 µg/L) * 121 = 10,890 ug/L, implemented as a daily maximum permit limit.

Nitrogen median standard (200 µg/L) * 121 = 24,200 ug/L, implemented as a monthly average permit limit.

Nitrogen 2% not-to-exceed standard (500 µg/L) * 121 = 60,500 ug/L, implemented as a daily maximum permit limit.

Chronic Whole Effluent Toxicity ("WET") Testing

The ASWQS include prohibitions against discharges to marine waters which cause toxic effects, after allowing for initial dilution. As shown above, the discharge has the reasonable potential to cause or contribute to an excursion above the water quality standard for toxicity. Following 40 CFR § 122.44(d)(1), in setting the permit's level for chronic WET and conditions for discharge, EPA is using an available short-term chronic WET method/test species at 40 CFR § 136 and an Instream Waste Concentration ("IWC") for the discharge representing the effluent dilution necessary to protect the receiving water's narrative water quality standard for toxicity. EPA has chosen the Test of Significant Toxicity ("TST") statistical approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). The TST null hypothesis for chronic toxicity (H_o) is: IWC mean response (% effluent) ≤ 0.75 Control mean response. The TST alternative hypothesis is (H_a): IWC mean response (% effluent) > 0.75 Control mean response. The TST alternative hypothesis is used to set the chronic toxicity WQBEL in this permit, where the result from a single chronic toxicity test is analyzed using only the TST approach. An acceptable level of chronic toxicity is demonstrated by statistically rejecting the TST null hypothesis. The TST provides for rejection of the rebuttable presumption that the effluent is harmful (ASWQS § 24.0206(h)).

The required chronic toxicity IWC for the discharge and WQBEL is 0.826 % effluent (1/S × 100), where S is 121, which is carried over from the previous permit and is consistent with the dilution applied to ammonia, which is the suspected primary source of toxicity. For each chronic toxicity test, the permittee is required to report Pass "0" or Fail "1" on the DMR form. Pass "0" constitutes rejection (i.e., statistical fail) and Fail "1" constitutes non-rejection (i.e., statistical pass) of the TST null hypothesis (Ho), at the required IWC (i.e., IWC mean response (0.826 % effluent) ≤ 0.75 × Control mean response). This is determined by following the instructions in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A.

Ammonia

American Samoa Water Quality Standards (ASWQS) specify ammonia standards for the receiving water. Treated and untreated domestic wastewater, such as that discharged from the Utulei STP, may contain levels of ammonia that are toxic to aquatic organisms. Ammonia is converted to nitrate during biological nitrification process, and then nitrate is converted to nitrogen gas through biological denitrification process. The water quality standards are pH and temperature dependent. Due to the potential for ammonia to be present in sanitary wastewater at toxic levels and due to the conversion of ammonia to nitrate, effluent limitations are established for ammonia using the Ammonia Impact Ratio ("AIR") for all facilities.

The AIR is calculated as the ratio of the ammonia value in the effluent to the applicable ammonia water quality standard. The ASWQS contain ammonia criteria which are pH and temperature dependent. Therefore, pH, temperature and ammonia sampling must be concurrent. Attachment D of the permit contains a sample log to calculate and record the AIR values and Attachment E lists applicable Water Quality Standards.

The permittee must also monitor and report the sampled ammonia effluent values (as well as pH and Temperature) used to calculate the AIR, in addition to the calculated numeric AIR value itself. AIR provides more flexibility than a specific, fixed effluent concentration and is protective of water quality standards since the value is set relative to the water quality standard, with consideration of dilution. If the reported value exceeds the AIR limitation, then the effluent Ammonia-N concentration exceeded the ammonia water quality criterion after dilution.

pH and Temperature

Although the data shows no reasonable potential for the discharge to exceed WQS for pH, the permit retains the water quality-based effluent limits from the previous permit for pH to meet anti-backsliding requirements. In addition, temperature monitoring is required to assess compliance with the ammonia effluent limit.

Oil and Grease

Domestic wastewater may often contain elevated levels of oil and grease from sources including kitchen drains and sanitary wastes. As these constituents can cause harm to marine life and form a problematic oily sheen on the receiving water, limits are set in the permit based on EPA's best professional judgement of typical limits at other comparable wastewater treatment facilities (an average monthly of 10 mg/l and daily maximum of 15 mg/l) in order to ensure the narrative water quality standard requiring waters to be "free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes, or other activities of man" is met. (ASWQS Section 24.206(b))

Chlorine, total residual

Treatment plants often discharge elevated levels of chlorine if they use the chemical for disinfection. The Utulei STP does not use chlorine for disinfection, therefore the permit does not implement a total chlorine limit.

D. 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 allows higher mass-based limits for Biochemical Oxygen Demand and Total Suspended Solids, derived from an expected increase in total flow to 3 MGD. These higher mass-based limits are permissible under Title 33 of the U.S. Code §1342(o)(1), by reference to §1313(d)(4) under the same Title (also known as CWA §303(d)(4)), which specifies that "for waters…where the quality of such waters equals or exceeds levels…required by applicable water quality standards, any effluent limitation based on…any water quality standard established under this section, or any other permitting standard may be revised…if such revision is subject to and consistent with the antidegradation policy". The receiving water is not impaired for the parameters in question (BOD and TSS), and EPA's analysis in the 301(h) TDD shows the receiving water meets WQS for DO and light penetration. Therefore, EPA has determined that allowing an increase in the mass-based effluent limitations for BOD and TSS meets antidegradation and anti-backsliding requirements.

The 2020 permit modification contains effluent limits for TN, TP, ammonia, and WET that are less stringent than those established in the previous permit. As described above, EPA has revised the dilution value based on information provided by the discharger in the permit appeal. EPA has calculated effluent limits for Total Nitrogen, Total Phosphorous, and ammonia based on the revised dilution value of 121:1; other limits are unmodified.

The effluent limits for Total Nitrogen, Total Phosphorous, ammonia, and WET are established to achieve compliance with applicable WQS. Section 303(d)(4)(B) of the CWA permits the modification of such effluent limits if WQS are attained in the receiving water and the discharge is consistent with the applicable policy on antidegradation. The applicable policy on antidegradation for Pago Pago Harbor is found at ASWQS §24.0202 and specifies that, for waters which do not "constitute an outstanding public resource or in waters of exceptional recreational or ecological significance" degradation of water quality is allowable if four conditions (listed below) are met. ASWQS § 24.0205(e)(1) specifies that Pago Pago Harbor does not constitute an outstanding public resource and is not a water of exceptional recreational or ecological significance. The effluent limits for Pago Pago Harbor can be modified if the following four conditions are met:

1. the proposed degraded level of water quality will support existing uses;
2. a compelling economic or social need of the Territory is served by allowing limited degradation;
3. the highest practicable statutory and regulatory requirements will be met by existing and new point sources of pollutants; and
4. all cost-effective and reasonable best management practices for non-point sources of pollutants will be achieved.

As the permit requires the discharge to comply with all WQS protective of existing uses, point 1 is met. Point 2 is met by the compelling need of the territory to treat and dispose of its wastewater for public health and environmental reasons. Point 3 is met by EPA and AS-EPA's imposition of the highest practicable requirements on existing and any new facilities, and Point 4 is addressed through AS-EPA's non-point-source reduction efforts such as the successful American Samoa piggery discharge control program.

Based on the discharge and related aspects meeting this 4-part test in the ASWQS provisions allowing for limited degradation, EPA finds that the discharge is consistent with the provisions of Section 303(d)(4)(B) of the CWA and therefore the effluent limitations for Total Nitrogen, Total Phosphorous, ammonia, and WET can be modified in the manner described in Section C of this Fact Sheet.

E. Antidegradation Policy

EPA's antidegradation policy at 40 CFR 131.12 and the ASWQS at American Samoa administrative rule No. 001-2013 require that existing water uses and the level of water quality necessary to protect the existing uses be maintained.

As described in this document, the permit establishes effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit includes a mixing zone, which has been approved by American Samoa EPA and reviewed by EPA for appropriate protection of the receiving water.

The 2019 permit allows higher mass loadings of BOD and TSS based on increased projected average flow relative to the previous permit This change is permissible once dilution and ambient levels are accounted for because receiving water monitoring data show that existing mass loadings of these parameters have not resulted in a violation of the applicable standards. Furthermore, the waterbody (outer Pago Pago Harbor) is not listed as an impaired waterbody for these parameters under section 303(d) of the CWA.

The 2020 modified permit allows increased Total Nitrogen, Total Phosphorous, and ammonia limits based on improved dilution. To ensure protection of existing uses and harbor water quality, EPA has used computer modeling to derive the permit limits for Total Nitrogen and Total Phosphorous. This modeling was conducted with modern software to account for complexities of mixing behavior in Pago Pago Harbor, implemented boundary conditions to account for limited input data, and was constrained not to allow for water-surface mixing in accordance with the ASWQS mixing zone policy.

To evaluate other potential pollutants, a priority pollutant scan of the effluent demonstrated that most pollutants not already regulated by the permit will be discharged below detection levels.

Therefore, due to application of water quality-based effluent limitations protective of ASWQS, the discharge is not expected to adversely affect receiving water bodies or result in degradation of water quality. EPA therefore concludes the discharge meets antidegradation requirements.

VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

The American Samoa Water Quality Standards contain narrative water quality standards applicable to the receiving water (ASWQS, §24.0206). Therefore, the permit incorporates applicable narrative water quality standards in Part I.A.

VIII. MONITORING AND REPORTING REQUIREMENTS

The permit requires the permittee to conduct monitoring for all pollutants or parameters where effluent limits have been established pursuant to 40 CFR 122.44, at the minimum frequency specified. Additionally, where effluent concentrations of toxic parameters are unknown or where data are insufficient to determine reasonable potential, EPA may require monitoring for additional pollutants or parameters.

A. Effluent Monitoring and Reporting

The permittee shall conduct effluent monitoring to evaluate compliance with the proposed permit conditions. The permittee shall perform all monitoring, sampling and analyses in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the proposed permit. All monitoring data shall be reported on monthly DMRs and submitted quarterly as specified in the proposed permit. All DMRs are to be submitted electronically to EPA using NetDMR.

In addition, the permittee shall continue the successful receiving water monitoring program which has allowed an accurate understanding of the context and effects of the discharge. This monitoring program shall be updated to incorporate permanent ZID stations, as necessary for renewal of the 301(h) variance, as well as direct monitoring of the effluent for parameters which were formerly only measured in the receiving water.

B. Priority Toxic Pollutants Scan

A Priority Toxic Pollutants scan shall be conducted during the fourth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee shall perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the proposed permit or by EPA. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants.

C. Whole Effluent Toxicity Testing

The permit establishes testing requirements for chronic toxicity.

Chronic toxicity testing evaluates reduced growth/reproduction at 100 percent effluent. Chronic toxicity is to be reported based on a determination of "Pass" or "Fail" from a single effluent-concentration chronic toxicity test at the IWC of 0.82 percent effluent using the Test of Significant Toxicity (TST) approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). For any one acute toxicity test, the chronic WET permit limit that must be met is rejection of the null hypothesis (H_o):

IWC (0.82 percent effluent) mean response $\leq 0.75 \times$ Control mean response.

A test result that rejects this null hypothesis is reported as "Pass" on the DMR form. A test result that does not reject this null hypothesis is reported as "Fail" on the DMR form. To calculate either "Pass" or "Fail", the permittee shall follow the instructions in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*, Appendix A. The permittee shall conduct short-term tests with the sand dollar (*Dendraster excentricus*) or the Purple Urchin (*Strongylocentrotus purpuratus*). These species are suitably sensitive indicators of potential toxic effects in the biological communities in the receiving water. The WET test result is to be statistically analyzed and reported using the Test of Significant Toxicity ("TST") statistical approach.

IX. SPECIAL CONDITIONS

A. Biosolids

Standard requirements for the monitoring, reporting, recordkeeping, and handling of biosolids in accordance with 40 CFR Part 503 are incorporated into the permit. The permit also includes electronic reporting requirements for dischargers who are required to submit biosolids annual reports, which include major Publically Owned Treatment Works (POTW)s that prepare sewage sludge and other facilities designated as "Class 1 sludge management facilities" (the Utulei STP is classified as a "major" POTW and must submit biosolids reports). Permittees shall submit biosolids annual reports using EPA's NPDES Electronic Reporting Tool ("NeT") by February 19th of the following year.

B. Pretreatment

EPA has established pretreatment standards to prevent the introduction of pollutants into POTWs which will interfere with or pass through the treatment works, and to improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges (Section 307 of the CWA). EPA requires any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 MGD and receiving from nondomestic sources pollutants which pass through or interfere with the operations of the POTW or are otherwise subject to pretreatment standards to establish a pretreatment program.

There are no nondomestic facilities discharging pollutants to Utulei STP. Therefore, the permit contains no pretreatment requirements other than the Non-Industrial Source Control Education Program required by CWA § 301(h). The purpose of the Non-Industrial Source Control Education Program is to minimize the entrance of toxic pollutants and pesticides to the Utulei STP from non-industrial sources. The Permittee can comply with the permit requirements by continuing to implement its current program, which includes newspaper articles, radio and television announcements, and informational pamphlets to increase awareness of the need for proper disposal of toxic pollutants.

C. Capacity Attainment and Planning

To ensure that adequate advance recognition and notice are given to capacity issues, the permit requires that a written report be filed within ninety (90) days if the average dry-weather wastewater treatment flow for any month exceeds 90 percent of the annual dry weather design capacity of the waste treatment and/or disposal facilities.

D. Development and Implementation of Best Management Practices

Pursuant to 40 CFR 122.44(k)(4), EPA may impose Best Management Practices (BMPs) which are "reasonably necessary…to carry out the purposes of the Act." The pollution prevention requirements or BMPs proposed in the permit operate as technology-based limitations on effluent discharges that reflect the application of Best Available Technology and Best Control Technology.

The permittee shall develop and implement BMPs that are necessary to control bacteria levels in the discharge, including daily logging of the UV transmissivity in the UV disinfection system and any deposition of solids in that same tank.

E. Development of an Initial Investigation TRE Workplan for Whole Effluent Toxicity

In the event effluent toxicity is identified or suspected from WET test results, the permit requires the permittee to develop and implement a Toxics Reduction Evaluation (TRE) Workplan. For chronic toxicity, unacceptable effluent toxicity is found in a single test result of

"fail" (failure to reject the null hypothesis) when testing whether an IWC (0.82 percent effluent) mean response is ≤ 0.75 × the mean response of the Control.
The draft permit also requires additional toxicity testing if a chronic toxicity monitoring event yields a result of "fail".
Within 90 days of the modified-permit effective date, the permittee shall prepare and submit a copy of their Initial Investigation TRE Workplan (1-2 pages) for chronic toxicity to EPA for review.

F. Asset Management

40 CFR 122.41(e) requires permittees to properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Asset management planning provides a framework for setting and operating quality assurance procedures and ensuring the permittee has sufficient financial and technical resources to continually maintain a targeted level of service. Asset management requirements have been established in the permit to ensure compliance with the provisions of 40 CFR 122.41(e).

X. OTHER CONSIDERATIONS UNDER FEDERAL LAW

A. Consideration of Environmental Justice

EPA's Environmental Justice policy establishes fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. As part of the environmental permitting process, EPA considers cumulative environmental impacts to disproportionately impacted communities.

In American Samoa, EPA is aware of several environmental burdens facing communities with limited resources, including ongoing boil water notices on the local drinking water system, wastewater treatment only to primary standards, industrial discharges, runoff from small-scale piggeries and an abundance of cesspools for individual residences.

This permit was written to regulate a publicly owned wastewater treatment plant as a potential source of pollution, to ensure the plant's discharge does not adversely impact the water quality of Pago Pago Harbor. In particular, and after careful consideration, EPA has set permit limits equal to or more stringent than those in the preceding permit, with the exception of the mass-based (lbs/day) limits on Biochemical Oxygen Demand and Total Suspended Solids. These two parameters are still required to maintain the same concentration-based (mg/L) limits as in the previous permit, and the changes to the mass-based limits are a reflection of the growing population served by the treatment plant.

In consideration of the above, EPA believes the permitted discharges should not contribute to undue incremental environmental burden and has made reasonable effort to ensure the community has, at a minimum, the same degree of protection as less burdened communities.

B. Impact to Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the federal agency does not jeopardize the continued existence of a listed or candidate species, or result in the destruction or adverse modification of its habitat.

EPA identified listed species in American Samoa and evaluated whether the proposed discharges would affect those species. Additional details of EPA's Biological Evaluation ("BE"), as shared with the U.S. Fish and Wildlife Service ("FWS") and the National Marine Fisheries Service ("NMFS") are available in the permit record.

EPA concluded that the discharge may affect, but is not likely to adversely affect, corals in American Samoa. EPA concluded the discharge will not affect other listed species.

EPA has concluded informal consultation with both USFWS and NMFS and both services have concurred with EPA's conclusion, in letters dated August 15, 2018 and June 5, 2019 respectively. Additionally, EPA provided both services with copies of the draft fact sheet and the draft permit during the public notice period and received no additional comments on the proposed permit requirements.

C. Impact to Coastal Zones

The Coastal Zone Management Act (CZMA) requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

EPA has received a general concurrence from the American Samoa Coastal Zone Management Program for the renewal of existing NPDES permits issued in American Samoa (American Samoa Department of Commerce, June 17, 2010 letter). As this action is a reissuance of the existing NPDES permit for the Utulei STP, the general concurrence applies and EPA has assured consistency with the Territory's Coastal Zone Management program.

D. Impact to Essential Fish Habitat

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (MSA) set forth mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat (EFH).

The permit contains technology-based effluent limits and numerical and narrative water quality-based effluent limits consistent with the standards designed to protect applicable aquatic life uses, as defined in the American Samoa Water Quality Standards. Therefore, EPA has determined that the proposed permit will not adversely affect essential fish habitat. The National Marine Fisheries Service concurred with EPA's conclusion in an E-mail dated August 20, 2019, after reviewing the permit record.

E. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. Pursuant to the NHPA and 36 CFR §800.3(a)(1), EPA is making a determination that issuing this proposed NPDES permit does not have the potential to affect any historic properties or cultural properties. As a result, Section 106 does not require EPA to undertake additional consulting on this permit issuance.

XI. STANDARD CONDITIONS

A. Reopener Provision

In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

B. Standard Provisions

The permit requires the permittee to comply with EPA Region IX Standard Federal NPDES Permit Conditions, dated July 1, 2001.

XII. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR 124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application.

B. Public Comment Period (40 CFR 124.10)

Notice of the draft permit will be placed in a daily or weekly newspaper within the area affected by the facility or activity, with a minimum of 30 days provided for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

C. Public Hearing (40 CFR 124.12(c))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if EPA determines there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

D. Water Quality Certification Requirements (40 CFR 124.53 and 124.54)

For States, Territories, or Tribes with EPA approved water quality standards, EPA is requesting certification from the affected State, Territory, or Tribe that the proposed permit will meet all applicable water quality standards. Certification under section 401 of the CWA shall be

in writing and shall include the conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Territory law.

XIII. CONTACT INFORMATION

Comments, submittals, and additional information relating to this proposal may be directed to:

Pascal Mues
mues.pascal@epa.gov
(415) 972-3768

XIV. REFERENCES

American Samoa EPA (ASEPA), 2013. *American Samoa Water Quality Standards* (2013 revision). American Samoa Administrative Rule No. 001-2013

American Samoa EPA (ASEPA), 2014. *American Samoa Water Quality Standards Implementation Guidance Manual*. March 2014

EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. Office of Water, EPA. EPA/505/2-90-001.

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EPA. 2013. *National Recommended Water Quality Criteria*. Office of Water, EPA. Aquatic Life Criteria Table. https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table#table

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EPA. 2010. *U.S. EPA NPDES Permit Writers' Manual*. Office of Water, EPA. EPA-833-K-10-001.

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