



JUN 17 2020

Alabama Department of Environmental Management
adem.alabama.gov

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MR JACK SWANN
GENERAL MANAGER
GUNTERSVILLE WATER AND SEWER BOARD
705 BLOUNT AVENUE
GUNTERSVILLE AL 35976

Re: REVISED DRAFT LOCAL LIMITS
GUNTERSVILLE WATER AND SEWER BOARD
GUNTERSVILLE EASTLAKE WWTP
NPDES PERMIT NO. AL0020150

Dear Mr. Swann:

This letter is to provide notification that ADEM has revised the draft local limits document for the Guntersville Eastlake WWTP. A copy of this draft along with supporting information is attached for your review and comment. ADEM is requesting that your comments be received no later than 30 days from the date of this letter.

Following evaluation of any additional information provided, revised draft local limits will be developed if needed. If your facility has no further comments, ADEM will proceed with the development of final local limits based on the attached revised draft. After consideration of any comments received during the public notice period, a final determination on the local limits will be made. All permits issued to industrial users must comply with adopted local limits.

Should you have any questions about this process, please contact Rachel Lounsberry by email at restanaland@adem.alabama.gov or by phone at (334) 279-3065.

Sincerely,


Scott Ramsey, Chief
Industrial Section
Industrial/Municipal Branch
Water Division

Attachments: Draft Local Limits
Rationale for Local Limits
Local Limits/Pass Through Calculations
List of Significant Industrial Users

CC: Cargill Inc
Farm Fresh Foods
Pilgrim's Pride Corp
Dustin Stokes
Rachel Lounsberry



LOCAL LIMITS

PUBLICLY OWNED TREATMENT WORKS: GUNTERSVILLE EASTLAKE WWTP
LOCATION: GUNTERSVILLE, ALABAMA
MARSHALL COUNTY
PERMIT NUMBER: AL0020150

GENERAL PRETREATMENT PROHIBITIONS

No discharge to the Publicly Owned Treatment Works (POTW) shall exceed or otherwise violate the General Pretreatment Standards described in ADEM Administrative Code 335-6-5. Specifically the POTW shall ensure that discharges to their system comply with the following prohibitions to ensure protection of the treatment and collections systems and to ensure worker safety:

Pollutants which create a fire or explosion hazard including but not limited to waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit;

Pollutants which will cause corrosive structural damage to the treatment works but in no case discharges with a pH lower than 5.0 S.U. unless the treatment works are specifically designed to accommodate such discharges;

Solid or viscous pollutants in amounts which will cause obstruction to the flow in sewers or other interference with the operation of the treatment works;

Any pollutant, including oxygen demanding pollutants released in a discharge of such volume or strength as to cause interference in the treatment works;

Heat in amounts which will inhibit biological activity in the treatment plant resulting in interference, but in no case in such quantities that the temperature of the effluent at the treatment plant exceeds 104 degrees Fahrenheit unless the treatment plant is designed to accommodate such heat;

Pollutants which will result in the presence of toxic gases, vapors or fumes within the treatment works in a quantity that may cause acute worker health and safety problems;

Any trucked or hauled pollutants except at discharge points designated by the treatment works; and

Petroleum oil, nonbiodegradable cutting oil, or products of mineral origin in such amounts that will cause interference or pass through.

GENERAL PRETREATMENT STANDARDS AND LOCAL LIMITS

POLLUTANTS:

The total average daily loading of the substances from all sources shall not exceed the indicated mass listed below.

<u>Parameter</u>	<u>Allowable Average Daily Pollutant Load at Headworks of POTW</u> (lbs/day)
Arsenic, Trivalent	1.003
Cadmium, Total Recoverable	0.7637
Chromium, Total Recoverable	204.3
Copper, Total Recoverable	30.10
Cyanide, Free	4.087
Lead, Total Recoverable	8.290
Mercury, Total Recoverable	0.5719
Nickel, Total Recoverable	6.020
Silver, Total Recoverable	10.22
Zinc, Total Recoverable	40.87

HYDRAULIC LOADING:

The hydraulic loading on an average basis is the design capacity of the treatment plant which is 4.9 million gallons per day.

ORGANIC LOADING:

The organic loading (CBOD₅) is the design capacity of the treatment plant which is 6825 pounds per day.

SOLIDS LOADING

The Total Suspended Solids loading (TSS) is the design capacity of the treatment plant which is 8173 pounds per day.

EFFECTIVE DATE:

ISSUANCE DATE:

DRAFT

Alabama Department of Environmental Management

Rationale for Local Limits

Guntersville Eastlake WWTP
4.9 MGD Activated sludge
Guntersville/Marshall County

(AL0020150)

Reissuance
Prepared Date: 1/10/2019
Prepared By: Ed Hughes
Revised Date: 6/16/2020

Nonconventional Pollutants:

Pass Through:

Allowable pollutant loadings were based on state water quality standards applicable to streams with a use designation of Swimming/Public Water Supply/Fish & Wildlife. Local limits calculations were performed using a receiving stream 7Q10 of 6212 cfs, 1Q10 of 4659 cfs, an annual average flow of 39,561 cfs and a stream hardness of 69.9 mg/l as CaCO₃. The treatment plant removal rates and untreated domestic sewage pollutant concentrations were based on Best Professional Judgment using literature values and EPA recommended levels as the basis unless site specific data was available. Calculations estimate the allowable quantity of heavy metals (measured as Total Recoverable) and Free Cyanide that can be discharged into the POTW to ensure that state water quality standards for aquatic toxicity and human health criteria are met in the receiving stream during critical flow conditions. Because only the portion of heavy metals present in dissolved form is "bioavailable" to aquatic life, the calculations which evaluate aquatic toxicity take into account the relationship between "dissolved" metals and metals measured using the Total Recoverable test procedure. The allowable pollutant loadings based on pass through concerns are located in column 11 of the Local Limits-Pass Through (LL-PT) spreadsheet.

Interference:

The Department evaluated the potential for processes at the POTW to be inhibited as result of the pollutant loading entering the treatment works. Inhibition values were based on Best Professional Judgment using literature values and EPA recommended levels as the basis unless site specific information was provided by the POTW. The allowable pollutant loadings based on inhibition concerns are located in column 13 of the LL-PT spreadsheet.

Sludge Disposal:

The POTW disposes of sludge using land application. According to the POTW's most recent MWSS report, the facility generates and disposes 956 tons per year of biosolids. This equates to 2.63 tons per day. This value was used in the development of local limits for this site. For POTWs that use land application as a means of disposal the LL-PT spreadsheet calculates the allowable pollutant loading to ensure that metal concentrations in the sludge comply with EPA 503 regulations for land application of biosolids. The results of these calculations are located in column 14 of the spreadsheet.

Column 15 of the LL-PT spreadsheet indicates the most stringent of the above three criteria. These loadings are considered the POTW's total headworks capacity for the pollutants of concern.

The LL-PT spreadsheet also lists the current loading of the pollutants of concern from domestic/commercial and industrial sources and determines the remaining capacity currently available. Domestic/commercial

loadings are indicated in Columns 16 and current industrial loadings are shown in column 17 (a listing of each significant industrial user and their permit limits and average reported discharge level for pollutants without permit limits is shown on the attached Significant Industrial Users sheet). Column 18 of that spreadsheet shows the remaining capacity after subtracting the current loadings.

It should be noted that the available pollutant loadings shown in column 18 have been reduced by 10%, which is the percent of total capacity reserved for future growth.

Conventional Pollutants

Temperature:

The Department is not aware of any specific circumstances related to this POTW which require a temperature limitation more stringent than general standards and prohibitions contained in ADEM Administrative code 335-6-5-.03(2)(e).

pH:

The Department is not aware of any specific circumstances related to this POTW which require a minimum pH limitation more stringent than general standards and prohibitions contained in ADEM Administrative code 335-6-5-.03(2)(b).

Hydraulic loading:

The hydraulic loading is the design capacity of the treatment plant as indicated by the POTW, 4.9 MGD.

Organic loading:

The organic loading (CBOD₅) is the design capacity of the treatment plant. This loading was calculated using the design flow of the POTW and an influent CBOD₅ concentration of 167 mg/l.

Total Suspended Solids loading

The Total Suspended Solids (TSS) loading was calculated using the design flow of the POTW and an influent TSS concentration of 200 mg/l.

While ADEM develops local limits and reviews compliance, POTWs are responsible for ensuring proper management of Significant Industrial Users and other sources to meet their NPDES limits and to prevent pass through and interference problems and to ensure compliance with the prohibitions contained in ADEM Administrative Code 335-6-5-.03 for protection of the treatment works, collection system and worker safety. The POTWs' responsibilities include establishing any additional limitations via local ordinances, etc. to protect the POTW and comply with their permit.

Revision Date (6/16/2020):

Sludge disposal calculations were revised to utilize data from the WWTP's most current MWPP. According to this report, the annual land application rate is 897 U S dry tons, or 2.46 tons on a daily basis. The daily average wastewater flow is reported to be 4.0 MGD. Based on an average flow of 4.9 MGD (WWTP's design flow) this would generate approximately 3.01 TPD of sludge. This value was used to determine the loading allocation for pollutants limited by sludge disposal.

LOCAL LIMIT/ PASS THROUGH CALCULATIONS

2/25/2020

POTW NAME: Guntersville Eastlake WWTP
 NPDES PERMIT NUMBER: AL0020150

DATE PREPARED: 6/15/2020
 PREPARED BY: Ed Hughes

STREAM DATA AND POTW FLOW DATA					
RECEIVING STREAM CLASSIFICATION	=	PWS	1	RECEIVING STREAM TIDALLY INFLUENCED =	No
POTW DESIGN FLOW	=		4.9 MGD		
FLOW FROM OTHER CONTRIBUTORS	=		MGD		
DOMESTIC FLOW	=		3.7556 MGD		
7Q10	=		6212 CFS	OR	4012.95 MGD
1Q10	=		4659.00 CFS	OR	3009.71 MGD
7Q2	=		CFS	OR	0.00 MGD
ANNUAL AVG FLOW	=		10244 CFS	OR	6617.62 MGD
STREAM HARDNESS (DEFAULT VALUE 100)	=		69.9 MG/L AS CaCO3		

ALLOWABLE LOADING TO STREAM BASED ON WATER QUALITY AND HH STANDARDS										
PARAMETER	1) CHRONIC	SW CHRONIC	2) MAX W Q	3) ACUTE	SW ACUTE	4) MAX W Q	5) HUMAN	6) MAX W Q	7) WQ / HH	PARAMETER
	TOXICITY	TOXICITY	INSTREAM	TOXICITY	TOXICITY	INSTREAM	HEALTH	INSTREAM	BASED OISC	
	(MG/L)	(MG/L)	(LBS/D)	(MG/L)	(MG/L)	(LBS/D)	(MG/L)	(LBS/D)	LEVEL (LBS/D)	
ANTIMONY, TOTAL RECOVERABLE	----	----	----	----	----	----	0.0055172	184.877	184.877	ANTIMONY, TR
ARSENIC, TRIVALENT	0.1500	----	8756.677	0.3400	----	14892.403	0.00012	6.654	6.654	ARSENIC, TRI
CADMIUM, TOT RECOVERABLE	0.0002	----	27.230	0.0014	----	151.433	----	----	27.230	CADMIUM, TR
CHROMIUM, TOT RECOVERABLE	0.0553	----	8820.04519	0.4249	----	50874.468	----	----	8820.045	CHROMIUM, TR
CHROMIUM, HEXVALENT	0.0110	----	368.598	0.0160	----	402.270	----	----	368.598	CHROMIUM, HEX
COPPER, TOTAL RECOVERABLE	0.0066	----	569.555	0.0096	----	620.204	1.30	43561.55	569.555	COPPER, TR
CYANIDE, FREE	0.0052	----	174.246	0.0220	----	553.121	0.1396	4677.21	174.246	CYANIDE, FREE
LEAD, TOT RECOVERABLE	0.0017	----	276.616	0.0436	----	5326.000	----	----	276.616	LEAD, TR
MERCURY, TOT RECOVERABLE	0.000012	----	1.33148	0.0024	----	199.803	0.0000419	1.405	1.33148	MERCURY, TR
MOLYBDENUM	----	----	----	----	----	----	----	----	----	MOLYBDENUM
NICKEL, TOT RECOVERABLE	0.0384	----	2548.909	0.3459	----	17218.633	0.4105572	13757.314	2548.909	NICKEL, TR
SELENIUM, TOTAL RECOVERABLE	0.0005	----	16.754	0.0020	----	50.284	0.1632463	5470.201	16.754	SELENIUM, TR
SILVER, TOT RECOVERABLE	----	----	----	0.0017	----	43.683	----	----	43.683	SILVER, TR
ZINC, TOT RECOVERABLE	0.0872	----	8856.554	0.0865	----	6591.200	6.1583578	206359.71	6591.200	ZINC, TR

DOMESTIC	DATA VALUE	Antimony	Arsenic	Cadmium	Chromium, To	Chromium, Vi	Copper	Cyanide	Lead	Mercury	Molybdenum	Nickel
	LIT VALUE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	DATA VALUE	Selenium	Silver	Zinc	0.0500	0.0000	0.0600	0.0400	0.0500	0.0000	0.0000	0.0200
	LIT VALUE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TYPE OF TREATMENT =	2	Act Sludge	SLUDGE DISPOSAL	
TREATMENT INCLUDE NITIFICATION?	No		DOES THE POTW HAVE SECONDARY CLARIFICATION?	Yes
			AVERAGE TONS OF SLUDGE PER DAY (DRY WEIGHT)	3.01
			IS SLUDGE LAND APPLIED?	Yes
GROWTH ALLOCATION				
			% ALLOCATION RESERVED FOR FUTURE GROWTH =	10

PARAMETER	7) MAX WQ INSTREAM (LBS/D)	8) ALLOCATION FROM BACKGROUND (LBS/D)	9) ALLOWABLE DISC FROM POTW (LBS/D)	10) REMOVAL RATE (%)	11) ALLOWABLE DISCHARGE (WQ / HH) (LBS/D)	12) INHIBITION TRESHOLD CONC (MGL)	13) ALLOWABLE DISCHARGE (INHIBITION) (LBS/D)	14) ALLOWABLE DISCHARGE (SLUDGE) (LBS/D)	15) ALLOWABLE DISCHARGE LOCAL LIMIT (LBS/D)	16) DOMESTIC INFLUENT LOADING (LBS / D)	17) INDUSTRIAL INFLUENT LOADING (LBS/D)	18) AVAILABLE CAPACITY FOR GROWTH (LBS/D)	LIMITING FACTOR
ANTIMONY, TOT RECOVERABLE	184.8766	0	184.8766	0	184.8766				184.8766	0.0313	0.0000	166.3608	WATER QUALITY
ARSENIC, TRIVALENT	6.6544	0	6.6544	45	12.0990	0.100	4.0866	1.003333333	1.0033	0.0313	0.0000	0.8746	SLUDGE
CADMIUM, TOT RECOVERABLE	27.2301	0	27.2301	67	82.5155	1.000	40.8660	0.763731343	0.7637	0.0940	0.0000	0.6028	SLUDGE
CHROMIUM, TOT RECOVERABLE	8820.0452	0	8820.0452	82	49000.2511	5.000	204.3300	-----	204.3300	1.5661	0.0000	182.4875	INHIBITION
CHROMIUM, HEXAVALENT	368.5977	0	368.5977	83	2168.2220	1.000	40.8660	---	40.8660	0.0000	0.0000	36.7794	INHIBITION
COPPER, TOTAL RECOVERABLE	569.5555	0	569.5555	86	4068.2534	1.000	40.8660	30.1	30.1000	1.8793	0.0000	25.3986	SLUDGE
CYANIDE, FREE	174.2462	0	174.2462	69	562.0845	0.100	4.0866	---	4.0866	1.2529	0.0000	2.5504	INHIBITION
LEAD, TOT RECOVERABLE	276.6163	0	276.6163	61	709.2726	1.000	40.8660	8.289836066	8.2898	1.5661	0.0000	6.0514	SLUDGE
MERCURY, TOT RECOVERABLE	1.3315	0	1.3315	60	3.3287	0.100	4.0866	0.5719	0.5719	0.0000	0.0000	0.5147	SLUDGE
MOLYBDENUM		0						0.4515	0.4515	0.0000	0.0000	-----	SLUDGE
NICKEL, TOT RECOVERABLE	2548.9086	0	2548.9086	42	4394.6699	1.000	40.8660	6.02	6.0200	0.6264	0.0000	4.8542	SLUDGE
SELENIUM	16.7544	0	16.7544	50	33.5089			1.204	1.2040	0.0000	0.0000	1.0836	SLUDGE
SILVER, TOT RECOVERABLE	43.6834	0	43.6834	75	174.7337	0.250	10.2165	---	10.2165	0.3132	0.0000	8.9130	INHIBITION
ZINC, TOT RECOVERABLE	6591.2003	0	6591.2003	79	31386.6681	1.000	40.8660	57.15189873	40.8660	5.6379	0.0000	31.7053	INHIBITION

Comments

Item 1: Allowable concentration instream based on above noted stream conditions and state standard to protect aquatic life from chronic toxicity.

Item 2: Mass of pollutant allowed instream based on above noted stream conditions and chronic criteria calculated as shown below:

Item 2 = stream 7Q10 x 8.34 x Item 1. If stream segment is tidally influenced, the more stringent of freshwater and saltwater criteria is used.

Item 3: Allowable concentration instream based above noted stream conditions and state standard to protect aquatic life from acute toxicity.

Item 4: Mass of pollutant allowed instream based on above noted stream conditions and acute criteria and calculated as shown below:

Item 4 = stream 1Q10 x 8.34 x Item 3. For LWF streams, Item 4 = stream 7Q2 x 8.34 x Item 3.

If stream segment is tidally influenced, the more stringent of freshwater and saltwater criteria is used.

Item 5: Allowable concentration instream based on above noted stream conditions and state human health standard for a stream with this use classification.

Item 6: Mass of pollutant allowed instream based on above noted stream condition, the human health standard and calculated as shown below:

Item 6 = Annual average stream flow x 8.34 x Item 5 (for carcinogens) and 7Q10 x 8.34 x Item 5 (for non-carcinogens).

Item 7: The most stringent of the requirements calculated in Items 2,4 and 6.

Item 8: Amount allocated to other facilities discharging to this stream segment.

Item 9: Remaining allocation available.

Item 10: Pollutant removal rates based on the treatment process.

Item 11: The calculated allowable discharge into the POTW based on water quality and human health concerns.

Item 12: Concentration of pollutant that could cause inhibition of biological processes utilized at the treatment plant.

Item 13: Allowable discharge into the POTW based on levels to prevent inhibition of biological treatment processes.

Item 14: Allowable discharge into the POTW based on levels to meet EPA 503 standards for land application of sludge, if sludge is land applied.

Item 15: Allowable discharge into the POTW based on the more stringent of Items 11, Item 13 and item 14 requirements. This column contains the Local Limits for this POTW.

Item 16: Domestic influent (lbs/d) based on domestic flow and sampled domestic influent data if available or literature values if not.

Item 17: Industrial influent (lbs/d) based on monthly average permit limits and actual average values for the past 2 to 5 years (depending on availability) for "monitor only" pollutants as shown on SIUs sheet. Values reported as less than detect are not included in average calculation.

Item 18: Available capacity remaining for new sources after subtracting capacity being utilized by industrial sources, domestic sources (including commercial sources and septage disposal) and capacity reserved for future growth.

Comments

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SIGNIFICANT INDUSTRIAL USERS

PERMITTEE	AVG FLOW (MGD)	DAILY AVG ANTIMONY (MG/L)	DAILY AVG ARSENIC (MG/L)	DAILY AVG CADMIUM (MG/L)	DAILY AVG CHROMIUM (MG/L)	DAILY AVG HEX CHROM (MG/L)	DAILY AVG COPPER (MG/L)	DAILY AVG CYANIDE (MG/L)	DAILY AVG LEAD (MG/L)	DAILY AVG MERCURY (MG/L)	DAILY AVG Molybdenum (mg/l)	DAILY AVG NICKEL (MG/L)	DAILY AVG SELENIUM (MG/L)	DAILY AVG SILVER (MG/L)	DAILY AVG ZINC (MG/L)
Cargill Inc (IU084800003)	0.1140	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Farm Fresh Foods (IU084800480)	0.0654	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pilgrim's Pride Corp (IU084800032)	0.9650	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total Industrial flow	1.1444														

Monthly average permit limits are listed in bold print.

Other values are based on a minimum of 24 months of data if available as reported on DMRs (for parameters with testing requirements in permits).

CURRENT PERMITTED INDUSTRIAL LOADING TO POTW (LBS/DAY)

PARAMETER	
ANTIMONY	0.0000
ARSENIC	0.0000
CADMIUM	0.0000
CHROMIUM	0.0000
HEX CHROM	0.0000
COPPER	0.0000
CYANIDE	0.0000
LEAD	0.0000
MERCURY	0.0000
Molybdenum	0.0000
NICKEL	0.0000
SELENIUM	0.0000
SILVER	0.0000
ZINC	0.0000