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MAY 16, 2019

MR RAY HARDIN
GENERAL MANAGER
DECATUR UTILITIES
POST OFFICE BOX 2232
DECATUR AL 35609-2232

Re: REVISED DRAFT LOCAL LIMITS
DECATUR UTILITIES
DRY CREEK WWTP
NPDES PERMIT NO. AL0048593

Dear Mr. Hardin:

This letter is to provide notification that ADEM has revised the draft local limits document for the Decatur Dry Creek WWTP. This revision was in response to Decatur Utilities' request to increase the reserve capacity from 10 to 25 percent. 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 and does not wish to establish a sampling program, 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 Theo Pinson by email at tpinson@adem.alabama.gov or by phone at (334) 274-4202.

Sincerely,

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

Attachments: Draft Local Limits
Rationale for Local Limits
Local Limits/Pass Through Calculations

CC: Nicholas Lowe, ADEM
Theo Pinson, ADEM

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

LOCAL LIMITS

PUBLICLY OWNED TREATMENT WORKS: **DRY CREEK WWTP**

LOCATION: **DECATUR, ALABAMA**
MORGAN COUNTY

PERMIT NUMBER: **AL0048593**

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.

Parameter	Allowable Average Daily Pollutant Load at Headworks of POTW (lbs/day)
Arsenic, Trivalent	30.02
Cadmium, Total Recoverable	82.90
Chromium, Total Recoverable	1501
Copper, Total Recoverable	300.2
Cyanide, Free	30.02
Lead, Total Recoverable	300.2
Mercury, Total Recoverable	3.481
Nickel, Total Recoverable	300.2
Silver, Total Recoverable	75.06
Zinc, Total Recoverable	300.2

HYDRAULIC LOADING:

The hydraulic loading on an average basis is the design capacity of the treatment plant which is 36.0 million gallons per day.

ORGANIC LOADING:

The organic loading ($CBOD_5$) is the design capacity of the treatment plant which is 50,140 pounds per day.

SOLIDS LOADING

The Total Suspended Solids loading (TSS) is the design capacity of the treatment plant which is 60,048 pounds per day.

EFFECTIVE DATE:

ISSUANCE DATE:

DRAFT

Alabama Department of Environmental Management

Rationale for Local Limits

Decatur Dry Creek WWTP (AL0048593) Reissuance
36.0 MGD Activated sludge Prepared Date: 2/5/2019
Decatur/Morgan County Prepared By: Ed Hughes
Revised Date: 5/15/2019

Nonconventional Pollutants:

Pass Through:
Allowable pollutant loadings were based on state water quality standards applicable to streams with a use designation of Swimming/Fish & Wildlife. Local limits calculations were performed using a receiving stream 7Q10 of 6436 cfs, 1Q10 of 4827 cfs, an annual average flow of 43,901 cfs and a stream hardness of 66 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.

Four significant industrial dischargers are located in the same stream segment as the Decatur POTW. These are 3M Company, Acsend Performance, Daikin America, and Indorama Ventures. The average process flows and the permitted loading of POCs from these sources were taken into account in developing local limits for the Decatur Dry Creek WWTP.

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 by landfilling. 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. Negative values indicate that no additional capacity is available for these pollutants.

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 limit is the design capacity of the treatment plant as indicated by the POTW, 36.0 MGD.

Organic loading:
The organic loading limit ($CBOD_5$) 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 (5/15/2019):

Per the POTW's request, the percent capacity reserved for future growth was increased from 10 to 25%. This change does not affect the pollutant loading allocation at the headworks of the plant, but does reduce the available capacity for growth at this time.

LOCAL LIMIT/ PASS THROUGH CALCULATIONS

POTW NAME: Decatur Dry Creek WWTP

NPDES PERMIT NUMBER: AL0048593

DATE PREPARED: 2/5/2019

PREPARED BY: Ed Hughes

REVISED: 2/21/2019

STREAM DATA AND POTW FLOW DATA							
RECEIVING STREAM CLASSIFICATION = Swimming/ F & W	0		RECEIVING STREAM TIDALLY INFLUENCED =		No		
POTW DESIGN FLOW =	36	MGD					
FLOW FROM OTHER CONTRIBUTORS =	7.4574	MGD					
DOMESTIC FLOW =	29.00578	MGD					
7Q10 =	6436	CFS	OR	4157.66	MGD		
1Q10 =	4827.00	CFS	OR	3118.24	MGD		
7Q2 =		CFS	OR	0.00	MGD		
ANNUAL AVG FLOW =	43901	CFS	OR	28360.05	MGD		
STREAM HARDNESS (DEFAULT VALUE 100) =	66	MG/L AS CaCO3					

ALLOWABLE LOADING TO STREAM BASED ON WATER QUALITY AND HH STANDARDS										
PARAMETER	1) CHRONIC TOXICITY (MG/L)	SW CHRONIC TOXICITY (MG/L)	2) MAX W Q INSTREAM (LBS/D)	3)ACUTE TOXICITY (MG/L)	SW ACUTE TOXICITY (MG/l)	4)MAX W Q INSTREAM (LBS/D)	5)HUMAN HEALTH (MG/L)	6)MAX W Q INSTREAM (LBS/D)	7)WQ / HH BASED DISC LEVEL (LBS/D)	PARAMETER
ANTIMONY, TOTAL RECOVERABLE	-----	-----	-----	-----	-----	-----	0.3733333	13080.587	13080.587	ANTIMONY, TR
ARSENIC, TRIVALENT	0.1500	-----	9156.085	0.3400	-----	15619.015	0.00030	71.783	71.783	ARSENIC, TRI
CADMIUM, TOT RECOVERABLE	0.0002	-----	27.357	0.0013	-----	150.193	-----	-----	27.357	CADMIUM, TR
CHROMIUM, TOT RECOVERABLE	0.0527	-----	8798.750	0.4054	-----	50905.935	-----	-----	8798.750	CHROMIUM, TR
CHROMIUM, HEXAVALENT	0.0110	-----	385.410	0.0160	-----	421.897	-----	-----	385.410	CHROMIUM, HEX
COPPER, TOTAL RECOVERABLE	0.0063	-----	567.023	0.0091	-----	616.214	-----	-----	567.023	COPPER, TR
CYANIDE, FREE	0.0052	-----	182.194	0.0220	-----	580.109	9.3333	327014.67	182.194	CYANIDE, FREE
LEAD, TOT RECOVERABLE	0.0016	-----	271.516	0.0410	-----	5243.696	-----	-----	271.516	LEAD, TR
MERCURY, TOT RECOVERABLE	0.000012	-----	1.392	0.0024	-----	209.552	0.0000424	1.486	1.39221	MERCURY, TR
MOLYBDENUM	-----			-----	-----		-------		-------	MOLYBDENUM
NICKEL, TOT RECOVERABLE	0.0366	-----	2538.816	0.3295	-----	17202.597	0.9929078	34788.794	2538.816	NICKEL, TR
SELENIUM, TOTAL RECOVERABLE	0.0005	-----	17.519	0.0020	-----	52.737	2.4305556	85160.070	17.519	SELENIUM, TR
SILVER, TOT RECOVERABLE	-----	-----	-----	0.0016	-----	41.507	-----	-----	41.507	SILVER, TR
ZINC, TOT RECOVERABLE	0.0831	-----	8820.827	0.0824	-----	6584.570	14.8936170	521831.92	6584.570	ZINC, TR

		Antimony	Arsenic	Cadmium	Chromium, To	Chromium,VI	Copper	Cyanide	Lead	Mercury	Molybdenum	Nickel
DOMESTIC	DATA VALUE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	LIT VALUE	0.0010	0.0010	0.0030	0.0500	0.0000	0.0600	0.0400	0.0500	0.0000	0.0000	0.0200
		Selenium	Silver	Zinc								
	DATA VALUE	0.0000	0.0000	0.0000								
	LIT VALUE	0.0000	0.0100	0.1800								

TYPE OF TREATMENT =	2	Act Sludge
TREATMENT INCLUDE NITIFICATION?	No	

SLUDGE DISPOSAL

DOES THE POTW HAVE SECONDARY CLARIFICATION?	Yes
AVERAGE TONS OF SLUDGE PER DAY (DRY WEIGHT)	N/A
IS SLUDGE LAND APPLIED?	No

GROWTH ALLOCATION

% ALLOCATION RESERVED FOR FUTURE GROWTH =	25

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 (MG/L)	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	13080.5867	0	13080.5867	0	13080.5867				13080.5867	0.2419	0.0000	9810.2586	WATER QUALITY
ARSENIC, TRIVALENT	71.7834	0	71.7834	45	130.5153	0.100	30.0240	--------	30.0240	0.2419	0.0000	22.3366	INHIBITION
CADMIUM, TOT RECOVERABLE	27.3574	0	27.3574	67	82.9012	1.000	300.2400	-------	82.9012	0.7257	0.1970	61.4838	WATER QUALITY
CHROMIUM, TOT RECOVERABLE	8798.7496	29.57	8769.1796	82	48717.6642	5.000	1501.2000	-------	1501.2000	12.0954	3.4300	1114.2560	INHIBITION
CHROMIUM, HEXAVALENT	385.4101	0	385.4101	83	2267.1185	1.000	300.2400	------	300.2400	0.0000	0.0485	225.1436	INHIBITION
COPPER, TOTAL RECOVERABLE	567.0235	38.65	528.3735	86	3774.0963	1.000	300.2400	-------	300.2400	14.5145	4.2498	211.1068	INHIBITION
CYANIDE, FREE	182.1939	0	182.1939	69	587.7222	0.100	30.0240	------	30.0240	9.6763	4.3152	12.0244	INHIBITION
LEAD, TOT RECOVERABLE	271.5162	8.524	262.9922	61	674.3390	1.000	300.2400	-------	300.2400	12.0954	9.2611	209.1626	INHIBITION
MERCURY, TOT RECOVERABLE	1.3922	0	1.3922	60	3.4805	0.100	30.0240	-------	3.4805	0.0000	0.0000	2.6104	WATER QUALITY
MOLYBDENUM		0						-------	0.0000	0.0000	1.3746	-------	--------
NICKEL, TOT RECOVERABLE	2538.8159	45.03	2493.7859	42	4299.6308	1.000	300.2400	-------	300.2400	4.8382	4.7062	218.0217	INHIBITION
SELENIUM	17.5186	0	17.5186	50	35.0373			-------	35.0373	0.0000	0.0000	26.2780	WATER QUALITY
SILVER, TOT RECOVERABLE	41.5069	0	41.5069	75	166.0277	0.250	75.0600	------	75.0600	2.4191	0.4744	54.1249	INHIBITION
ZINC, TOT RECOVERABLE	6584.5703	19.54	6565.0303	79	31262.0492	1.000	300.2400	-------	300.2400	43.5435	25.3873	173.4819	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 critria 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 critria 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. Total include permitted limits from 3M, Acsend, Daikin and Indorama's process discharges.

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 treament 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 availablity)

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.