



JUL 29 2014

Alabama Department of Environmental Management
adem.alabama.gov

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MR ERIC CARSON
WATER RESOURCES MANAGEMENT DIRECTOR
CITY OF AUBURN
1501 WEST SAMFORD AVENUE
AUBURN AL 36832

Re: Draft Local Limits
Auburn H C Morgan POTW

Dear Mr. Carson

The Department is required by ADEM Administrative Rule 335-6-5-.03 to develop local limits for Publicly Owned Treatment Works (POTW) receiving wastewater from significant industrial users which contain pollutants that could adversely impact the operation or performance of the treatment works. These limits must prevent pass through of pollutants that will cause a violation of a water quality standard in the waterbody receiving the POTW discharge, interfere with the POTW treatment system or cause sludge disposal problems.

Proposed local limits have been developed for the Auburn H C Morgan POTW and are enclosed for your review and comment. Any comments should be received by the Department no later than September 5, 2014.

Department rules also provide the opportunity for the POTW to reserve any portion of the POTW's hydraulic capacity or treatment capacity for any pollutant. Suggested changes to local limits must be accompanied by technical justification.

Following consideration of comments received from the POTW and significant industrial users affected by the proposed local limits, final draft local limits will be developed and placed on public notice for 30 days. After consideration of the comments received during the public notice period, a 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, please contact Scott Ramsey by email at SRamsey@adem.state.al.us or by phone at (334) 271-7838.

Sincerely,

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

Enclosure: Proposed local limits
CC: Borbet Alabama
Briggs and Stratton
G E Aviation
IM Metals Division
Nashville Wire Products
Rexnord Industries
Emily Anderson



LOCAL LIMITS

PUBLICLY OWNED TREATMENT WORKS: AUBURN H C MORGAN WPCF

LOCATION: AUBURN, ALABAMA
LEE COUNTY

PERMIT NUMBER: AL0050237

GENERAL PRETREATMENT STANDARDS AND PROHIBITIONS

No discharge to the Publicly Owned Treatment Works shall exceed or otherwise violate the General Pretreatment Standards described in ADEM Administrative Code 335-6-5.

METALS:

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

<u>Parameter</u>	<u>Allowable Average Daily Load</u> (lbs/day)
Arsenic, Total Recoverable	0.27
Cadmium, Total Recoverable	0.55
Chromium, Total Recoverable	168.23
Copper, Total Recoverable	10.90
Cyanide, Free	1.29
Lead, Total Recoverable	2.13
Mercury, Total Recoverable	0.00
Nickel, Total Recoverable	11.82
Silver, Total Recoverable	1.14
Zinc, Total Recoverable	93.83

No future loading above the domestic wastewater concentration of Cyanide or Lead will be allowed. All new or expanding industrial dischargers containing these pollutants shall be limited as indicated below:

<u>Parameter</u>	<u>Allowable Average Concentration</u> (mg/l)
Cyanide, Free	0.04
Lead, Total Recoverable	0.05

TEMPERATURE:

No discharge to the POTW shall cause the influent temperature at the treatment plant to exceed 104 degrees Fahrenheit or be released to the sewer at such temperature as to cause damage to the collection system.

pH:

No discharge to the POTW shall be less than 5.0 s.u. or greater than 10.5 s.u.

HYDRAULIC LOADING:

The hydraulic loading limit is the design capacity of the treatment plant which is 11.25 million gallons per day.

ORGANIC LOADING:

The organic loading limit (BOD₅) is the design capacity of the treatment plant which is 18,765 pounds per day.

EFFECTIVE DATE:

DRAFT

Rationale for Local Limits

AUBURN H C MORGAN WPCF
11.25MGD activated sludge facility
Auburn/ Lee County

AL0050237

Reissuance XXX
Prepared Date: July 17, 2014
Prepared By: EKH

Metals:

Pass Through:

Allowable metals loadings were based on state water quality standards applicable to streams with a use designated of Fish & Wildlife. Local limits calculations were performed using a receiving stream 7Q10 of 0.12 cfs, 1Q10 of 0.09 cfs and an annual average flow of 10.67 cfs. The treatment plant removal rates and domestic sewage metals concentrations were based on Best Professional Judgment (BPJ). The stream hardness of 77 mg/l (as CaCO₃) is based on upstream data provided to the Department by the Permittee. Calculations estimate the allowable quantity of heavy metals (measured as Total Recoverable) which 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. 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. See Attachment 1 to this document for the calculations used to determine available allocations for each of the heavy metal of concern. These calculations estimate that no additional loading of Cyanide and Lead above the domestic sewage concentration can be allowed; therefore, discharges by industrial sources shall be limited to domestic sewage concentrations.

Interference:

Based on BPJ and the Department’s experience in managing the local limits program, limits developed to prevent pass through should also be sufficient to prevent interference.

Sludge Disposal:

The POTW disposes of sludge by land application. The Department is not aware of any information that indicates that local limits derived to prevent pass through are insufficient to prevent interference with sludge disposal.

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). Based on BPJ a maximum pH limit of 10.5 s.u. should be protective of the collection and treatment systems.

Hydraulic loading:

The hydraulic loading limit is the design capacity of the treatment plant as indicated by the POTW, 11.25 MGD.

Organic loading:

The organic loading limit (BOD₅) is the design capacity of the treatment plant. This loading was calculated using the design flow of the POTW and an influent BOD₅ concentration of 200 mg/l.

While ADEM develops local limits and reviews compliance, POTWs are responsible for ensuring proper management of SIDs and other users to meet their NPDES limits and to prevent pass through and interference problems. The POTWs' responsibilities include establishing any additional limitations via local ordinances, etc. to protect the POTW and comply with their permit.

ATTACHMENT

LOCAL LIMIT CALCULATIONS

PREPARED BY:
DATE PREPARED:

EKH
July 10, 2014

POTW NAME: Auburn HC Morgan WPCF
NPDES PERMIT NUMBER: AL0090237

STREAM DATA AND POTW FLOW DATA			
STREAM CLASSIFICATION (F&W=0,PWS=1,A&I=2)	=	0	REC'G STREAM SALT WATER (0=YES, 1=NO) =
POTW DESIGN FLOW	=	11.25 MGD	
FLOW FROM OTHER CONTRIBUTORS	=	0.00 MGD	
7Q10	=	0.12 CFS	OR 0.08 MGD
1Q10	=	0.09 CFS	OR 0.06 MGD
ANNUAL AVG FLOW	=	10.67 CFS	OR 6.89 MGD
STREAM HARDNESS (DEFAULT VALUE 100)	=	77 MG/L AS CaCO3	

OPTIONAL DATA IF AVAILABLE

POTW Wastewater Characteristics	
PARAMETER	AVG INF (MG/L)
ARSENIC, TOT RECOVERABLE	
CADMIUM, TOT RECOVERABLE	
CHROMIUM, TOT RECOVERABLE	
COPPER, TOTAL RECOVERABLE	
CYANIDE, AVAILABLE	
LEAD, TOT RECOVERABLE	
NICKEL, TOT RECOVERABLE	
MERCURY, TOT RECOVERABLE	
SILVER, TOT RECOVERABLE	
ZINC, TOT RECOVERABLE	

STREAMS ONLY

PARAMETER	WATER QUALITY STANDARDS								
	1) CHRONIC	SW CHRONIC	2) MAX W Q	3) ACUTE	SW ACUTE	4) MAX W Q	5) HUMAN	6) MAX W Q	7) REQUIRED
	TOXICITY (MG/L)	TOXICITY (MG/L)	INSTREAM (LBS/D)	TOXICITY (MG/L)	TOXICITY (MG/L)	INSTREAM (LBS/D)	HEALTH (MG/L)	INSTREAM (LBS/D)	INSTREAM STD (LBS/D)
ARSENIC, TOT RECOVERABLE	0.1900	----	31.271	0.3600	----	59.149	0.00030	0.045	0.045
CADMIUM, TOT RECOVERABLE	0.0002	----	0.082	0.0016	----	0.624	----	----	0.082
CHROMIUM, TOT RECOVERABLE	0.0598	----	26.917	0.4600	----	206.571	----	----	26.917
CHROMIUM, HEXAVALENT	0.0110	----	1.039	0.0180	----	1.509	----	----	1.039
COPPER, TOTAL RECOVERABLE	0.0072	----	1.744	0.0105	----	2.554	----	----	1.744
CYANIDE, AVAILABLE	0.0052	----	0.491	0.0220	----	2.075	9.3300	881.419	0.491
LEAD, TOT RECOVERABLE	0.0019	----	0.383	0.0485	----	9.801	----	----	0.383
NICKEL, TOT RECOVERABLE	0.0417	----	7.799	0.3753	----	70.097	0.9930	93.810	7.799
MERCURY, TOT RECOVERABLE	0.000012	----	0.001	0.0024	----	0.226	0.000042	0.004	0.00113
SILVER, TOT RECOVERABLE	-----	----	----	0.0021	----	0.194	----	----	0.194
ZINC, TOT RECOVERABLE	0.0947	----	27.102	0.0939	----	26.836	----	----	26.836

		Arsenic	Cadmium	Chromium, Tot	Chromium, Hex	Copper	Cyanide	Lead	Nickel	Mercury	Silver	Zinc
DOMESTIC	DATA VALUES	0.0000	0.0030	0.0500	0.0000	0.0600	0.0400	0.0500	0.0200	0.0000	0.0100	0.1800
	LIT VALUES	0.0000	0.0030	0.0500	0.0000	0.0600	0.0400	0.0500	0.0200	0.0000	0.0100	0.1800

TYPE OF TREATMENT =	2
PRIMARY =	1
ACT. SLUDGE =	2
TR. FILTER =	3
O ₂ ACT. SLUDGE =	4
RBC =	5
AER. LAGOON =	6

PARAMETER	7) MAX WQ INSTREAM (LBS/D)	8) ALLOCATION FOR OTHER FACILITIES (LBS/D)	9) ALLOWABLE DISC FROM POTW (LBS/D)	10) REMOVAL RATE (%)	11) ALLOWABLE DISC INTO POTW* (LBS/D)	12) INHIBITION TRESHOLD CONC (MGL)	13) ALLOWABLE DISC INTO POTW** (LBS/D)	14) ALLOWABLE DISC INTO POTW*** (LBS/D)
ARSENIC, TOT RECOVERABLE	0.05		0.05	83	0.27	0.100	9.38	0.27
CADMIUM, TOT RECOVERABLE	0.08		0.08	85	0.55	1.000	93.83	0.55
CHROMIUM, TOT RECOVERABLE	26.92		26.92	84	168.23	15.000	1407.38	168.23
CHROMIUM, HEXAVALENT	1.04		1.04	83	6.11	N/A		6.11
COPPER, TOTAL RECOVERABLE	1.74		1.74	84	10.90	0.500	46.91	10.90
CYANIDE, AVAILABLE	0.49		0.49	62	1.29	0.100	9.38	1.29
LEAD, TOT RECOVERABLE	0.38		0.38	82	2.13	0.100	9.38	2.13
NICKEL, TOT RECOVERABLE	7.80		7.80	34	11.82	0.250	23.46	11.82
MERCURY, TOT RECOVERABLE	0.00		0.00	76	0.00	0.100	9.38	0.00
SILVER, TOT RECOVERABLE	0.19		0.19	83	1.14	0.250	23.46	1.14
ZINC, TOT RECOVERABLE	26.84		26.84	81	141.24	1.000	93.83	93.83

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:

$$\text{Item 2} = \text{stream 7Q10} \times 8.34 \times \text{Item 1.}$$

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:

$$\text{Item 4} = \text{stream 1Q10} \times 8.34 \times \text{Item 3.}$$

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 condi the human health standard and calculated as shown below:

$$\text{Item 6} = \text{Annual average stream flow} \times 8.34 \times \text{Item 5 (for carcinogens)} \text{ and } 7\text{Q10} \times 8.34 \times \text{Item 5 (for non-carcinogens).}$$

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 in 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 the more stringent of Item 11 and Item 13 requirements.