Water Permits 101:
Components of a Water Permit for Sugar Mills

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The Application Process

In accordance with LAC 33:IX.2501.D.2 – All sugar mills with effective permits are required to submit a renewal application 180 days before the current permit expires in order to obtain authorization to continue operating under the current permit until a renewal permit is issued.

A sugar mill may request a renewal application extension beyond the deadline for submission of the renewal application; however, the extension date may not go beyond the expiration date of the current permit.

If the renewal application is not received before the expiration date of the current permit, the sugar mill will be discharging without an effective permit and subject to enforcement action.

The Application Form

In accordance with LAC 33:IX.2501.A.2 – All existing sugar mills must apply for a renewal permit using the state- or EPA-approved permit application form.

The state-approved permit application form (IND Application) may be obtained by contacting the Office of Environmental Services or by accessing the department's website at www.deq.louisiana.gov (go to Divisions > Water Permits > LPDES Permits > LPDES Application Forms).

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The Application Form

An application with an original signature along with one copy shall be submitted to the following address:

Mailing Address:
Department of Environmental Quality
Office of Environmental Services
Post Office Box 4313
Baton Rouge, LA 70821-4313
Attention: Water Permits Division

Physical Address:
Department of Environmental Quality
Office of Environmental Services
602 N. Fifth Street
Baton Rouge, LA 70802
Attention: Water Permits Division

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Completion of the Application

Before an application is forwarded to the Water Permits Division, it must be deemed as "administratively complete" by the Permit Application Administrative Review (PAAR) Group.

Every item on the application must be addressed and the last page signed by an authorized company agent. If an item does not apply, please enter "Not Applicable" or "NA" to show that the question was considered.

After the application is considered complete, a letter of "Administrative Completeness" will be sent to the applicant.

If an application is not administratively complete, a request for additional information will be sent to the applicant identifying the deficiencies.

Completion of the Application

Factors for consideration in preparing applications for sugar mills:

1. Section I.E.4 of the Application (Guideline/Production) - The applicant shall provide the production rate (in tons) and number of days of production from the last grinding season or the highest monthly average (Maximum 30-Day) production rate (in tons/day) of the previous year. If this is not representative of the applicant's normal production rate, then the applicant may provide total production rates from the previous 5 years (in tons) and the number of days of production.

2. Section III.C.4 of the Application - The applicant must provide sample data for every outfall as required by the Water Quality Regulations in accordance with the application. The applicant may request a waiver from the parameters listed in the section cited above in accordance with LAC 33:IX.2501.G.7.d if the applicant demonstrates that information adequate to support issuance of the permit can be obtained with less stringent requirements.

Completion of the Application

If an applicant has questions regarding the Application, please contact the Water Permits Division at (225) 219-3181. If an applicant needs help with completion of an application, the LDEQ Small Business/Small Community Assistance Program may be contacted at 1-800-259-2890.

Permit Limits for Sugar Mills

Regulatory Basis for Technology-Based Limits

LAC 33:IX.2707 requires that LPDES permits include effluent limits and standards promulgated under the Clean Water Act (CWA), Sections 301 (effluent limits and standards), or 402(a)(1) (case-by-case basis) or a combination.

Permit Limits for Sugar Mills

Federal Guidelines

The federal guidelines cited at 40 CFR 409, Subpart D (Louisiana Raw Cane Sugar Processing) were promulgated in February 1975.

State Guidelines

The state guidelines cited at LAC 33:IX.707.D (Raw Cane Sugar Processing) were promulgated in November 1985.

Permit Limits for Sugar Mills

Federal Guidelines – 40 CFR 409, Subpart D

409.42.D.a - For sugar mills that continuously discharge barometric condenser cooling water and other process wastewaters (i.e. facilities with year-round discharges)

The federal guidelines require that daily maximum and monthly average mass limits for BOD_5 and TSS be established using the following production-based factors.

Pollutant	Monthly Average (kg/kkg or lbs/1000 lbs)	Daily Maximum (kg/kkg or lbs/1000 lbs)
BOD_5	0.63	1.14
TSS	0.47	1.41
pH	(*1)	(*1)

(*1) Within the range of 6.0 – 9.0 s.u.

Permit Limits for Sugar Mills

Federal Guidelines – 40 CFR 409, Subpart D

409.42.D.a - For sugar mills that continuously discharge barometric condenser cooling water and other process wastewaters (i.e. facilities with year-round discharges)

The following equations are used to calculate the daily maximum and monthly average technology-based mass limits based on this guideline:

Production Rate (tons/day) x 2000 lbs/ton = Production Rate (in 1000 lbs/day)

Production Rate (in 1000 lbs/day) x Production-Based Factor (lbs/1000 lbs) = Mass limits (lbs/day)

Permit Limits for Sugar Mills

Federal Guidelines – 40 CFR 409, Subpart D

409.42.D.b - For sugar mills that impound all or a portion of the wastewater for discharge after the grinding season

The federal guidelines require that annual average mass limits for BOD_5 and TSS be established using the following production-based factors:

Pollutant	Total of the daily values for the entire discharge period (kg/kkg or lbs/1000 lbs)
BOD_5	0.63
TSS	0.47
pH	(*1)

(*1) Within the range of 6.0 – 9.0 s.u.

Permit Limits for Sugar Mills

Federal Guidelines – 40 CFR 409, Subpart D

409.42.D.b - For sugar mills that impound all or a portion of the wastewater for discharge after the grinding season

The following equations are used to calculate the annual average technology-based mass limits based on this guideline:

Production-Based Factor (in lbs/1000 lbs) x 2000 lbs/ton = Production-Based Factor (lbs/ton)

0.63 lbs/1000 lbs x 2000 lbs/ton = 1.26 lbs/ton of BOD_5 of gross cane ground

0.47 lbs/1000 lbs x 2000 lbs/ton = 0.94 lbs/ton of TSS of gross cane ground

Total tons of gross cane ground x Production-Based Factor (lbs/ton) = Total (lbs) permitted to be discharged or Annual Average Limit

Permit Limits for Sugar Mills

State Guidelines (General Rules) – LAC 33:IX.707.D

LAC 33:IX.707.D.2.a - For sugar mills discharging to the Mississippi River:

The state guidelines require that daily maximum and monthly average technology-based mass limits for BOD_5 and TSS be established using the following production-based factors:

Pollutant	Daily Average (lbs/ton)	Daily maximum (lbs/ton)
BOD_5	1.1	2.0
TSS	1.0	3.0
pH	(*1)	(*1)

(*1) Within the range of 6.0 – 9.0 s.u.

[NOTE: For continuous dischargers, the state mass limits are compared against the federal mass limits to determine which limits are more stringent. The most stringent limit is established in the permit.]

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Permit Limits for Sugar Mills

State Guidelines (General Rules) – LAC 33:IX.707.D

LAC 33:IX.707.D.2.a - For sugar mills discharging to the Mississippi River:

The following equations are used to calculate the daily maximum and monthly average technology-based mass limits based on this guideline:

Production Rate (in tons/day) x Production-Based Factor (lbs/ton) = Mass limits (lbs/day)

Permit Limits for Sugar Mills

State Guidelines (General Rules) – LAC 33:IX.707.D

LAC 33:IX.707.D.2.b - For sugar mills discharging to streams other than the Mississippi River:

The state guidelines require that daily maximum and monthly average technology-based mass limits for BOD_5 and TSS be established using the following production-based factors unless there are water quality concerns (i.e. TDML).

Pollutant	Daily Average (lbs/ton)	Daily maximum (lbs/ton)
BOD_5	0.025	0.050
TSS	0.080	0.240
pH	(*1)	(*1)

(*1) Within the range of 6.0 – 9.0 s.u.

Permit Limits for Sugar Mills

State Guidelines (General Rules) – LAC 33:IX.707.D

LAC 33:IX.707.D.2.b - For sugar mills discharging to streams other than the Mississippi River:

The following equations are used to calculate the daily maximum and monthly average technology-based mass limits based on this guideline:

Production Rate (in tons/day) x Production-Based Factor (lbs/ton) = Mass limits (lbs/day)

Permit Limits for Sugar Mills

State Guidelines (General Rules) – LAC 33:IX.707.D

LAC 33:IX.707.D.2.c – In lieu of the mass limits in LAC 33:IX.707.D.2.b, the following concentration limits may be established for sugar mills that impound all wastewaters for discharge after the grinding season:

The state guidelines require that daily maximum and/or monthly average technology-based concentration limits for BOD_5, TSS, and Dissolved Oxygen be established using the following limits unless there are water quality concerns (i.e. TDML).

Pollutant	Daily Average (mg/L)	Daily maximum (mg/L)
BOD_5	10	15
TSS	---	50
Dissolved Oxygen	4.0 (avg.)	3 .0 (min.)
pH (s.u.)	6.0 (min.)	9.0 (max.)

Annual average limits for BOD_5 and TSS are also established in the permit to comply with the state and/or federal guidelines since they apply to sugar mills that fall under this category as well.

Permit Limits for Sugar Mills

The annual average mass limits for BOD_5 and TSS permitted to be discharge are calculated by multiplying the total tons of gross cane ground from the last season in which cane was ground by 1.26 lbs/ton and 0.94 lbs/tons, respectively. These requirements apply to the discharges from all process wastewaters outfalls (combined) at a sugar mill.

Total tons of gross cane ground x Production-Based Factor (lbs/ton) = Total (lbs) permitted to be discharged (Annual Average Limit)

A reporting requirement is also established which requires the applicant to report (on an annual basis) the total pounds of BOD_5 and TSS discharged, the total number of days that a discharge occurred, and the total tons of gross cane ground during the last season in which cane was ground. An attachment is provided with the permit that allows the applicant to report this information to the Department.

Permit Limits for Sugar Mills

Regulatory Basis for Water Quality-Based Limits

Clean Water Act (CWA), Section 303(b)(1)(c) and LPDES regulations at LAC 33:IX.2707.D require limits more stringent than the technology-based limits when necessary to attain state water quality standards.

These limits are designed to ensure that the water quality standards are attained.

Permit Limits for Sugar Mills

General TMDL Considerations

I. Whenever possible, the limits from the current permit are retained in the renewal permit unless there are water quality concerns.

II. The current permit has technology-based mass limits for BOD_5 and TSS:

   a. If the receiving stream is not listed as being impaired for Organic Enrichment/Low Dissolved Oxygen (DO) and/or TSS – then the proposed mass limits may be established based on the current production rate.

   b. If the receiving stream is listed as being impaired for Organic Enrichment/Low DO and/or TSS – then the current mass limit(s) for the applicable parameter will be retained if the TMDL assessment has not been completed. [Note: The current mass limit(s) may not be retained if the proposed mass limit(s) using the current production rate would be more stringent based on a decrease in production.] If the TMDL assessment has been completed, then the water quality-based mass limit(s) for the applicable parameter from the TMDL will be compared against the technology-based mass limit(s) to determine the most stringent limit(s). The most stringent limit will be established in the permit.

Permit Limits for Sugar Mills

General TMDL Considerations - Continued

III. The current permit has technology-based concentration limits for BOD_5, TSS, and DO:

   a. If the receiving stream is not listed as being impaired for Organic Enrichment/Low Dissolved Oxygen (DO) and/or TSS – then the concentration limits may be retained in the proposed permit.

   b. If the receiving stream is listed as being impaired for Organic Enrichment/Low DO and/or TSS – then the current concentration limit(s) will be retained if the TMDL assessment has not been completed. If the TMDL assessment has been completed, then the water quality-based mass limit(s) for the applicable parameter from the TMDL will be compared against the technology-based mass limit(s) to determine the most stringent limit(s). The most stringent limit will be established in the permit.

IV. The current permit has mass or concentration limits for BOD_5 or TSS.

The scenarios outlined in Sections II and III above apply based on whether a TDML assessment has been completed or not for the applicable parameter.

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General Conditions

Monitoring Requirements

The regulations require permits to establish monitoring requirements to yield data representative of the monitored activity (LAC 33:IX.2701.J and 2715) and to assure compliance with permit limitations (LAC 33:IX.2707.I).

Whenever possible, the monitoring frequencies and sample types used in the current permit are retained in the renewal permit unless the sugar mill provides information that would necessitate a change in the permit.

In general, the monitoring frequencies and sample types used most often in water permits for sugar mills are as follows:

Flow – monitoring required on a continuous basis using a measuring method that provides a determinable level of accuracy.

BOD_5 and TSS – monitoring required 1/week using a 24-Hour Composite sample (unless the facility requests that the sample type be changed to grab).

Dissolved Oxygen and pH – monitoring required 1/week using a Grab sample.

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General Conditions

Recordkeeping and Reporting

The regulations require monitoring results to be reported based on intervals specified in the permit on Discharge Monitoring Reports (DMR) forms in accordance LAC 33:IX.2701.L.

Monitoring results must be reported on a DMR form (EPA No. 3320-1 or an approved substitute). All monitoring reports must be retained for a period of at least three (3) years from the date of the sample measurement.

If there is no discharge during the reporting period, place an "X" in the NO DISCHARGE box located in the upper right corner of the Discharge Monitoring Report for that outfall.

Monitoring results for each reporting period shall be summarized on a DMR form (one DMR form per outfall for each monitoring period) and submitted to the Office of Environmental Compliance either hand delivered, postmarked, or electronically submitted in accordance with LAC 33:I.2101.A and B no later than the 28th day of the month following each reporting period.

If an applicant is interested in obtaining pre-printed DMRs or submitting electronic DMRs, please contact the Permit Compliance Unit at (225) 219-3665.

General Conditions

Recordkeeping and Reporting

For parameters that require a monitoring frequency of quarterly or more frequent (i.e. continuous, 1/day, 1/week, etc.), DMRs shall be submitted in accordance with the following schedule:

Monitoring Period	DMR Postmark Date
January, February, March	April 28th
April, May, June	July 28th
July, August, September	October 28th
October, November, December	January 28th

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General Conditions

Recordkeeping and Reporting

If the applicant is required to comply with an annual average limit based on the federal and state regulations, then the applicant will be required to report (on an annual basis) the total pounds of BOD_5 and TSS discharged, the total number of days that a discharge occurred, and the total tons of gross cane ground during the last season in which cane was ground. These requirements apply to the discharges from all process wastewaters outfalls (combined) at a sugar mill.

A form will be attached to the permit that allows the applicant to report this information to the Department.

General Conditions

Recordkeeping and Reporting

If not submitting electronically, duplicate copies of DMRs (one set of originals and one set of copies) signed and certified as required by LAC 33:IX.2503 and all other reports (one set of originals) are required to be submitted to the Permit Compliance Unit (one set of copies) at the following address:

Department of Environmental Quality
Office of Environmental Compliance
Enforcement Division
Permit Compliance Unit
Post Office Box 4312
Baton Rouge, Louisiana 70821-4312

General Conditions

Storm Water Pollution Prevention Plan (SWP3)

The primary objective of implementing a SWP3 is to establish and maintain Best Management Practices (BMPs) that identify, reduce, eliminate and/or prevent the discharge of stormwater pollutants.

A SWP3 is a separate document required by the LPDES permit that specifies how a particular facility will prevent the discharge of non-point source pollutants.

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(3) and (4)], standard SWP3 requirements are included in permits for facilities that have stormwater discharges associated with industrial activities. This requirement is applicable to all storm water discharges from a facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow.

For renewal permit issuance, the permit will contain language that requires the SWP3 be reviewed and updated, if necessary, within six (6) months of the effective date of the final permit.

General Conditions

Storm Water Pollution Prevention Plan (SWP3) - Continued

Regulatory Requirements:

Review/Update Plan
Conduct Visual Inspections
Maintain Records
Annual Certification

If the applicant maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), and Response Plans.

Speaker Contact Information

- Gary Aydell - (225) 219-3002 gary.aydell@la.gov
- Sonja Loyd - (225) 219-3090 sonja.loyd@la.gov

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Questions?


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