



NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

OCT 19 2017

Mr. Michael Hutcheson
 Consulting Environmental Engineer
 Ameren Corporation
 P.O. Box 66149, MC 602
 St. Louis, MO 63166-6149

RE: New Source Review Permit Amendment - Permit Number: 102016-004A
 Project Number: 2017-01-036; Installation Number: 071-0003

Dear Mr. Hutcheson:

Special condition 13 of permit 102016-004 required Ameren Missouri Labadie Energy Center to submit calculations sufficient to justify the bottom ash, economizer ash, fly ash, and wastewater sediment maximum hourly design rates (MHDRs) stated in that permit application. This amendment is a result of that submittal. Original and amended MHDRs are provided in Table 1. The submitted bottom and economizer ash MHDR is slightly lower than the original permit, but conservatively it was kept at 6 tph for potential purposes.

Table 1: MHDR (tph)

Collected Material	Permit 102016-004	Amended
Bottom and economizer ash, per boiler	6	6
Fly ash (including activated carbon), per boiler	14.5	14.64
Wastewater sediment, site-wide total	1.18	1.18

As the collected fly ash MHDR is higher than the original value, the potential emissions increase as well. This affects permits 102016-004 and 012005-016B. Original and amended potential emissions are provided in Table 2. Both permits remain de minimis. All HAPs remain below respective screening model action levels (SMALs) on a per project basis. There are no changes to any of the construction permit special conditions. This amendment results in an off permit change for the operating permit.

Table 2: Potential Emissions (tpy)

Pollutant	De Minimis Level	Permit 102016-004	Amended	Permit 012005-016B	Amended
PM	25.0	23.09	23.66	23.94	24.07
PM ₁₀	15.0	10.15	10.31	5.71	5.75
PM _{2.5}	10.0	3.15	3.19	2.34	2.35
Combined HAPs	25.0	0.02	0.02	0.00636	0.00640

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If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.aa.mo.gov/ahc.

If you have any questions regarding this amendment, please do not hesitate to contact David Little, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



Kendall B. Hale
Permits Section Chief

KBH:dlj

Enclosures

c: St. Louis Regional Office
PAMS File: 2017-01-036

Installation: Ameren Labadie
 ID: 071-0003
 Calculation Date: 7/26/2017
 Project Description: construction permit amendment
 permit 102016-004 special condition 13 required ash mhdr justification

required to justify the permitted MHDR:

		permitted mhdr 102016-004	
		tph per boiler	site
bottom ash			
economizer ash	6		
fly ash			
wastewater sediment	n/d		1.18

applicability determination submittal

tph per boiler	avg (tph)	
n/a	5.65 to 5.64	decrease but keeping 6 tph for potential
n/a		need to add PAC to fly ash
n/a	1.179680365	no change

calculations shall include:

did the applicability determination provide it?

- yes max heat input of each boiler
- yes historic and potential coal ash content
- yes by subtraction, but not the % itself percent of coal ash as fly/bottom/economizer ash
- no activated carbon injection and other additive rates
- no each ESP PM filterable control efficiency

compare their values to the permitted values.

their 4 unit avg fly ash is higher than 14.5, so need ESP control eff and PAC/additive rates. Asked Mike H for values in 3/3/17 email.

following the applicability determination submittal calcs:

	units of measure	unit 1	unit 2	unit 3	unit 4
heat input to boiler	mmbtu/hr	6183	6183	6103	6103
coal HHV	btu/lb	8700	8700	8700	8700
coal flow per unit	lb/hr	710690	710690	701494	701494
coal flow per unit	tph	355	355	351	351
coal flow per unit (very high coal flow)	lb/hr	724138	724138	727586	727586
coal flow per unit (very high coal flow)	tph	362	362	364	364
% total ash in coal	%	5.55%	5.55%	5.55%	5.55%
% total ash in coal	%	5.70%	5.70%	5.70%	5.70%
total ash production rate	lb/hr	40509	40509	39985	39985
total ash production rate	tph	20.25	20.25	19.99	19.99
percent fly ash	%	71.95	71.95	71.95	71.95
fly ash production (mix charts)	tph	[REDACTED] higher than 14.5			
total ash, plant	tph	80.57			
total fly ash, plant	tph	57.97			
avg fly ash per unit	tph	14.49		actually 14.55	
bottom and economizer, plant	tph	22.60			
bottom and economizer, per unit	tph	5.65			
PAC injection (not provided in original subn	tph	0.05	0.075	0.175	0.075
sum fly ash + PAC (tph)		14.62	14.645	14.705	14.605
average		[REDACTED] in 2016-05-022 Excel, see if over deminimis			
		[REDACTED] E still under demin, needs amendment			
previous PAC project said ESP caught all of the PAC					
LVW solids					
solids	lb/day	48580			
solids	tpd	24.29			
	day/yr	365			
mass dry solids at max flow	tpy	8866			
percent moisture	%	17%			

recreating their calcs:

	unit 1	unit 2	unit 3	unit 4
does this check out?				
no, see OP2011-020C and EIQ	6183	6183	6107	6107
reference not listed, does not match EIQ 8790. but lower val	8700	8700	8700	8700
yes	710689.66	710689.66	701954.02	701954.02
yes	355.34	355.34	350.98	350.98
no reference, can't follow calculation	724138	724138	727586	727586
	362.07	362.07	363.79	363.79
max is 5.70% in the low coal tph chart, but 5.55% in the high throughput chart. EIQ has lower values.	5.70%	5.70%	5.70%	5.70%
yes, per max of their 2 charts. Except unit 3 and 4 mhdr	40509.31	40509.31	40011.38	40011.38
yes, per max of their 2 charts. Except unit 3 and 4 mhdr	20.25	20.25	20.01	20.01
	71.95%	71.95%	71.95%	71.95%
maybe. Mixing of charts, rounding error?	[REDACTED] lower than the permit 14.5			
yes, submittal is higher than mine	80.52			
yes, submittal is higher than mine	57.93			
not applies to apples. Need individual units not average	14.48			
yes	22.59			
yes. Permitted rates at 6 tph each	5.68	5.68	5.61	5.61
Mike H provided in email 7/25/2017, tph not lb/hr	0.05	0.075	0.175	0.075
	14.62	14.65	14.57	14.47
	[REDACTED] 5			
	[REDACTED] -05-022 Excel, see if over deminimis			
assume the BlackVeatch values are good	48580			
	24.29			
	365			
	8865.85			
yes per BV calcs	17%	equals		1.184138