

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0299-AR-18 AFIN: 17-00043

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Bekaert Corporation
1881 Bekaert Drive
Van Buren, Arkansas 72956

3. PERMIT WRITER:

Andrea Sandage

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Steel Wire Drawing
NAICS Code: 331222

5. SUBMITTALS:

10/17/2013

6. REVIEWER'S NOTES:

Bekaert Corporation (Bekaert) manufactures drawn wire products (NAICS 331222) at its facility located at 1881 Bekaert Drive, Van Buren, Crawford County, Arkansas 72958. With this DeMinimis modification, the facility requested to replace the pickled steel rod process limit of 144,870 tons per year with 312 tons per year anthracite coal limit. Dust collectors for SN-13, SN-22 and SN-35 will be removed and dust emissions will vent outside through the roof. The plant wide emissions increases are 0.6 tpy PM/PM₁₀, 6.2 tpy SO₂, 0.1 tpy VOC and a decrease of 0.5 tpy CO, 0.9 tpy NO_x, and 0.29 tpy Lead.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues. The last inspection, dated May 2, 2013, resulted in no violations.

8. PSD APPLICABILITY:

- a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N
- b) Is the facility categorized as a major source for PSD? N
- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list, or*
 - *CO₂e potential to emit ≥ 100,000 tpy and ≥100 tpy/≥250tpy of combined GHGs?*

9. GHG STATUS:

Indicate one:

- Facility is classified as a major source for GHG and the permit includes this designation
- Facility does not have the physical potential to be a major GHG source
- Facility has restrictions on GHG or throughput rates that limit facility to a minor GHG source. Describe these restrictions: _____

10. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-42, SN-43	SO ₂ , PM	40 CFR 60, Subpart Dc

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. NAAQS EVALUATIONS AND NON-CRITERIA POLLUTANTS:

a) NAAQS: Pursuant to Act 1302 of the Regular Session of the 89th General Assembly of the State of Arkansas, no dispersion modeling was performed by ADEQ because it was not voluntarily proposed and agreed to by the facility. No other information was submitted by the applicant. Criteria pollutants were not evaluated for impacts on the NAAQS.

b) Non-Criteria Pollutants:

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	SN	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
HCl	10, 19, 30, 81	2.98*	0.328	1.99	N
Cl ₂	11, 13, 20, 22, 32, 35	1.45	0.16	0.90	N
NH ₃ /NH ₄	11, 13, 20, 22, 32, 35	17.41	1.92	2.70	N

*2012 TLV data

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH. Dispersion modeling was performed for the R-16 application using 2009-2012 MET data and was performed for HCl only, since this was the only pollutant affected by the application.

Pollutant	PAIL (µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
HCl	29.8**	13.545	Y
Cl ₂	14.5	1.37*	Y
NH ₃ /NH ₄	174.1	5.10*	Y

* From a previous Permit #0299-AR-11-SOB

**Based on 2012 TLV

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
06, 53	Stack Testing at Bekaert Facilities in Rome, GA & Belgium	Engr Est = 10% air borne dust @ 6.0 mg/m ³ + 200% SF = <u>PM Fugitive</u> = 0.5622 lb/hr	Two Dust Collectors for Wire Drawing Dept	95.0% Fabric Filter - BUT used 90% for calculations	8760 hrs/yr 200% SF SN-06,53 split emissions equally

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		Total/2 =0.28 lb/hr ea + PM Dust Collector @ 7.66 lb/hr * 200% SF * 90% eff = 1.53 lb/hr/2 =0.77 ea			
07, 16, 26	AP-42 Section 1.2	SO ₂ - 58.5 lb/ton NO _x - 9 lb/ton CO - 0.6 lb/ton PM - 13.2 lb/ton VOC - 0.3 lb/ton Pb - 0.0089 lb/ton	None	N/A	Stoker fired boilers SO ₂ EF=39S S=1.5% PM - ash content 15% 8760 hrs/yr
10, 19, 30	Testing	100 ppm HCl conc to scrubber	Scrubber	98%	100% Safety Factor
13, 22, 35	Engineering Estimate based on dust collected in 2013	1090.9 lbs/yr collected dust	None	None	baghouses removed and vented outside. Only PM values updated in permit. All other emissions from previous permit.
28, 50, 51	Engineering Estimate	0.02 lb/hr 0.1 tpy	None	N/A	Vent Stacks exhausts Water vapor & Negligible PM #55 moved to IA in R-14
40	Based on weld	9.53 x 10 ⁻⁵ g Zn oxide/weld	N/A	N/A	50% is assumed to become airborne. Annual is 8760 hr/yr.

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
59, 70 – 74	Estimate based on depth of the weld	12.86×10^{-5} g Zn/weld	N/A	N/A	Assumes 50% is airborne
67, 68, 69	PM Stack Testing at Bekaert Facilities in Rome, GA & Belgium	Engr Est = 10% air borne dust @ 6.0 mg/m ³ dust loading= PM Fugitive = 0.40 lb/hr Total/3 =0.13 lb/hr ea	None	N/A	Ventilation Fans are not control Equipment 200% SF
75	Engineering assumption	Assumed factor of 0.1 lb/hr	N/A	N/A	#75 moved to IA in R-14
64, 66, 76	Engineering estimate using industrial hygiene testing data	Dust loading 6.0 mg/m ³ with 200% safety factor.	N/A	200% SF	10% of airborne dust leaves building. 30% of wire draw non-stack emissions distributed equally between SN-76 and SN-77. 212,230 m ³ /hr air.
77	Engineering estimate using industrial hygiene testing data	Dust loading 6.0 mg/m ³ with 200% safety factor.	N/A	N/A	10% airborne dust exits building. 30% of wire draw nonstack emission distributed equally between SN-76 & SN-77. 212,230 m ³ /hr air.
78	Engineering estimate using stack testing data	Dust loading 7.66 lb/hr with 200% safety factor.	Dust collector	90%	40% of wire draw emissions distributed equally between SN-66 and SN-78.
42, 43	AP-42, Table 1.4.1-1.4.3, small industrial	SO ₂ = 0.6lb/mmcf NO _x = 100 lb/mmcf CO = 84 lb/mmcf	None	N/A	Updated emission factors applied only to new boilers

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	boilers, uncontrolled	PM = 7.6 lb/mmcf PM ₁₀ = 7.6 lb/mmcf VOC = 5.5 lb/mmcf NG heating value = 973 btu/cf Maximum schedule = 24hr/day, 7 days/wk, 26 wks/yr. One boiler at a time operates. One boiler operates 52 wks/yr. Existing boilers 14.7 MM Btu/hr			
81	Mass Balance	2.19 lb VOC/gal 1,650 gal per yr	Scrubber	N/A	Assumes all VOC emitted
83	Stack testing of SN-07, SN-16	PM=0.0166 lb/hr	Cyclone	Not used in the calculation	Safety factor 1.5 80 tons/day 30,926 tpy

14. TESTING REQUIREMENTS:

No stack testing required.

15. MONITORING OR CEMS:

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
81	Pressure Drop (inches H ₂ O)	Pressure gauge on HCl Scrubber	Daily	N
10, 19, 30	Pressure Drop (inches H ₂ O)	Sieve tray differential pressure	Daily	N

16. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
Facility	Natural Gas	562.4 MM CF/rolling 12-month period	Monthly	N
Facility	Anthracite Coal	312 tons/rolling 12-month period	Monthly	N
Facility	Pickling Inhibitor	1650 gallons/rolling 12-month period	Monthly	N
SN-42, SN-43	Natural Gas Consumption	11.24 MM CF/month	Monthly	N

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
08, 12, 14, 17, 21, 23, 25, 27, 33, 34, 36, 42, 43, 44, 79	5%	Natural Gas Fired Equipment	Inspector's Observation
06, 07, 11, 13, 16, 20, 22, 28, 29, 31, 32, 35, 36, 39, 40, 41, 50, 51, 53, 54, 62, 64, 66, 76, 77, 78, 81, 83	20%	Manufacturing Equipment	Inspector's Observation

Permit #: 0299-AR-18

AFIN: 17-00043

Page 8 of 8

18. DELETED CONDITIONS:

Former SC	Justification for removal
14, 15, 16, 17	Alternative Scenario #1 no longer applies.
18, 19, 20, 21, 22, 23	These conditions applied to Alternative Scenario #2, which was implemented. These requirements are incorporated into other specific conditions in the permit.
24	This modification incorporates modifications for Alternative Scenario #2.

19. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Three Zinc Quench Bath Vacuums (one formerly SN-49) water vapor only	A-13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Four Zinc or Bezinol Quench Knives (two formerly SN-55 and SN-75) water vapor only	A-13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IVP-40 Zinc Bath Emergency Generator (SN-82)	A-1	0.00058	0.000034	0.00172	0.216	0.132	N/A	N/A

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
0299-AR-17

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 08-26-13

Facility Name: Bekaert Corporation--
 Van Buren
 Permit Number: 0299-AR-18
 AFIN: 17-00043

			Old Permit	New Permit
\$/ton factor	23.42	Permit Predominant Air Contaminant	33.7	32.8
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	-0.9	
Minimum Initial Fee \$	500	Permit Fee \$	400	
Check if Administrative Amendment	<input type="checkbox"/>	Annual Chargeable Emissions (tpy)	32.8	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	27.9	28.5	0.6
PM ₁₀	27.9	28.5	0.6
SO ₂	11.9	18.1	6.2
VOC	4.3	4.4	0.1
CO	13.7	13.2	-0.5
NO _x	33.7	32.8	-0.9
Pb	0.3	0.01	-0.29
HCl	8.35	8.35	0
Chlorine	2.2	2.2	0
Ammonia	11	11	0