

STATEMENT OF BASIS

For the issuance of Air Permit # 0299-AR-17 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. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Steel Wire Drawing
NAICS Code: 331222

5. SUBMITTALS:

2/11/2013 4/22/2013

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 modification, the facility will add an existing emergency generator (SN-82) as an insignificant activity and add a new Pre-stretch Cable Strander (SN-83). Specific Condition # 15 has been revised to lower the acceptable pressure drop for SN-81 from 2.5 to 0.5 and change the pressure drop for SN-30 from 5 to 8 to 5.5 to 9.0. The plant wide emissions increases are 0.1 tpy PM/PM₁₀.

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 June 28, 2011, resulted in no violations.

There are no active or pending air enforcement actions at this time.

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 $\geq 100,000$ tpy and ≥ 100 tpy/ ≥ 250 tpy of combined GHGs?*

If yes, explain why this permit modification not PSD?

9. GHG MAJOR SOURCE (TITLE V):

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	Regulation (NSPS, NESHAP or PSD)
SN-42, SN-43	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:

- (i) List the reason for a NAAQS evaluation (i.e. what changes are being permitted that would require the evaluation) and pollutants affected. If a NAAQS evaluation is not required, indicate why not.

This permitting action is for a Minor Source. 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/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	SN	TLV (mg/m^3)	PAER (lb/hr) = $0.11 \times \text{TLV}$	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 this (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 ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	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

Other Modeling: Not Required

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor & units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission Factor controlled/uncontrolled, etc)
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 Total/2 = 0.28 lb/hr ea <u>+ PM Dust Collector @ 7.66 lb/hr * 200% SF * 90% eff = 1.53 lb/hr/2 = 0.77 ea</u>	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
10, 19, 30	Testing	100 ppm HCl conc to scrubber	Scrubber	98%	100% Safety Factor
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	9.53×10^{-5} g Zn oxide/weld	N/A	N/A	50% is assumed to become airborne. Annual is 8760 hr/yr.
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

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor & units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission Factor controlled/uncontrolled, etc)
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.

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor & units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission Factor controlled/uncontrolled, etc)
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 boilers, uncontrolled	SO ₂ = 0.6lb/mmcf NO _x = 100 lb/mmcf CO = 84 lb/mmcf 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	None	N/A	Updated emission factors applied only to new boilers
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	Pickled Steel Rod	144,870 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,	5%	Natural Gas Fired	Inspector's

SN	Opacity	Justification for limit	Compliance Mechanism
33, 34, 36, 42, 43, 44, 79		Equipment	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

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 Bezinal 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.

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21. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Paula Parker, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 08-20-12

Facility Name: Bekaert Corporation--
 Van Buren
 Permit Number: 0299-AR-17
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			Old Permit	New Permit
\$/ton factor	22.97	Permit Predominant Air Contaminant	33.7	33.7
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	0	
Minimum Initial Fee \$	500	Permit Fee \$	400	
Check if Administrative Amendment <input type="checkbox"/>		Annual Chargeable Emissions (tpy)	33.7	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	27.8	27.9	0.1
PM ₁₀	27.8	27.9	0.1
SO ₂	11.9	11.9	0
VOC	4.3	4.3	0
CO	13.7	13.7	0
NO _x	33.7	33.7	0
Pb	0.3	0.3	0
HCl	8.35	8.35	0
Chlorine	2.2	2.2	0
Ammonia	11	11	0