

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0511-AR-10 AFIN: 70-00103

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

AmerCable, Inc.
350 Bailey Road
El Dorado, Arkansas 71730

3. PERMIT WRITER:

Joseph Hurt

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Copper Rolling, Drawing, Extruding, and Alloying
NAICS Code: 33142

5. SUBMITTALS:

5/26/2009

6. REVIEWER'S NOTES:

AmerCable, Inc. is a manufacturer of industrial cable. This facility is located in El Dorado, Union County, Arkansas. This permitting action is necessary to install a new Continuous Vulcanization (CV) Line (SN-07). This line will be referred to as the "China Line" and will consist of two (2) extruders. The primary line has a capacity of 500 pounds per hour (lb/hr) and the insulation shield extruder has a capacity of 500 lb/hr. This change will result in an increase of 6.7 lb/hr of Acetophenone/VOC emissions. The facility is requesting to maintain its existing HAP cap of 9.9 tpy. There are no annual permitted emission rate increases associated with this modification.

7. COMPLIANCE STATUS:

- The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

There are no known current or pending issues.

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?

If yes, explain why this permit modification not PSD? N/A

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
N/A		

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Only lead modeling was performed with this modification to verify compliance with the new NAAQS standard.

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu\text{g}/\text{m}^3$)	Averaging Time	Highest Concentration ($\mu\text{g}/\text{m}^3$)	% of NAAQS
PM ₁₀	1.3	50	Annual	N/A	N/A
		150	24-Hour	N/A	N/A
SO ₂	0.6	80	Annual	N/A	N/A
		1300	3-Hour	N/A	N/A
		365	24-Hour	N/A	N/A

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu\text{g}/\text{m}^3$)	Averaging Time	Highest Concentration ($\mu\text{g}/\text{m}^3$)	% of NAAQS
VOC	240.8	0.12	1-Hour (ppm)	N/A	N/A
CO	2.8	10,000	8-Hour	N/A	N/A
		40,000	1-Hour	N/A	N/A
NO _x	3.4	100	Annual	N/A	N/A
Pb	0.6	0.15	Rolling 3-month Period over 3 years (not to be exceeded in any 3 month period)	0.05	33.33 %

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	TLV (mg/m^3)	PAER (lb/hr) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Acetone	1187.11	130.58	15.5	Y
Acetophenone	49.14	5.40	183.05	N
Di(2-ethylhexyl)phthalate	5	0.55	0.94	N
Ethyl Benzene	434.19	47.76	0.24	Y
Ethylene Glycol	100	11	2.63	Y
Formaldehyde	0.3684	0.04	0.05	N
Methanol	262.08	28.82	3.0	Y
Methylene Chloride	173.68	19.10	5.5	Y
Methyl Isobutyl Ketone	204.82	22.53	5.9	Y
Toluene	188.40	20.72	9.4	Y
Xylene	434.19	47.76	0.86	Y

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.

Pollutant	PAIL ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Acetophenone	491.4	482.4 ^{1,2}	Y
Di(2-ethylhexyl)phthalate	50	15.6	Y
Formaldehyde	3.6	0.05	Y

1. This is the only pollutant that was modeled with AERMOD. All other non-criteria pollutants did not increase the lb/hr emission rates with this modification.
2. This concentration is assuming that the Tuber lines emit at capacity for 11 hours (the worst case of the scenarios modeled). The 99,000 lb/day limit was determined based on this worst case scenario. Any adjustment to the daily limit will have to be evaluated against the PAIL.

Other Modeling:

Odor: N/A

Odor modeling for sources emitting styrene.

Pollutant	Threshold value 1-hour average	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Styrene	1361 $\mu\text{g}/\text{m}^3$	N/A	N/A

H₂S Modeling: N/A

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H₂S Standards N/A

If exempt, explain: _____

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H ₂ S	20 parts per million (5-minute average*)	N/A	N/A
	80 parts per billion (8-hour average) residential area	N/A	N/A
	100 parts per billion (8-hour average) nonresidential area	N/A	N/A

*To determine the 5-minute average use the following equation

$$C_p = C_m (t_m/t_p)^{0.2} \text{ where}$$

C_p = 5-minute average concentration

C_m = 1-hour average concentration

t_m = 60 minutes

t_p = 5 minutes

12. CALCULATIONS:

SN	Emission Factor Source	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
SN-01 thru SN-04, SN-11, & SN-13	AP-42, Natural Gas Combustion Factors	PM/PM ₁₀ : 7.6 lb/MMft ³ SO ₂ : 0.6 lb/MMft ³ VOC: 5.5 lb/MMft ³ CO: 84 lb/MMft ³ NO _x : 100 lb/MMft ³	N/A	N/A	SN-01 and SN-02 are 6.5 MMBTU/hr SN-03, SN-04, SN-11, and SN-13 are 4.2 MMBTU/hr
SN-05	Thermoplastic extrusion factor from similar facility	0.191 lb VOC/ton	N/A	N/A	Hourly emission rates based on 1800 lb compound/hr. Annual emission rates based on 3,000,000 lb/yr.
SN-06	Material Balance, MSDS	VOC: Chemlok 6.93 lb/gal Toluene Extender 7.18 lb/gal HAPs: Ethyl Benzene 1.54 lb/gal Toluene 7.18 lb/gal Xylene 5.39 lb/gal	N/A	N/A	Annual emission rates based on 600 gal/yr Chemlock and 2220 gal/yr toluene extender. Hourly emission rates based on 0.1 gal/hr Chemlock and 0.5 gal/hr toluene extender.

SN	Emission Factor Source	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
SN-07	MSDS, Rubber Tire Manufacturing Industry	<p>1.0 wt% acetophenone (from the decomposition of cumene peroxide) 67% of acetophenone emitted based on testing</p> <p>0.002 lb VOC/25.3 lb Adhesive (DOP): 8.2 lb/gal VOC 8.2 lb/gal di(2-ethylhexyl)phthalate</p>	N/A	N/A	<p>Hourly emission rates based on 25,350 lb/hr of acetophenone-producing compounds. Total maximum extrusion rate of 25,350 lb compound/hr. Hourly emission rate based on 0.94 lb/hr Adhesive (DOP).</p> <p>Annual emission rates based on 9.9 tpy of acetophenone emissions and 30.0 MM lb/yr of total thermoset compounds. Annual emission rate based on 360 gal/yr Adhesive (DOP).</p>

SN.	Emission Factor Source	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
SN-08	Material Balance, MSDS	VOC M-1055: 7.5 lb/gal Lacquer (Telecom Cable): 25 wt% Varsol: 6.34 lb/gal Ink/Extender: 9.84 lb/gal HAPs Methylene Chloride Solvent: Methylene Chloride 11.0 lb/gal M-1055: MIBK 3.75 lb/gal Lacquer (Telecom Cable): Methanol 20 wt% Toluene 5 wt% Varsol: Ethyl benzene 0.04 lb/gal Xylene 0.32 lb/gal Acetone Acetone: 6.7 lb/gal Lacquer (Telecom Cable): 25 wt% Ink/Extender: Acetone 4.02 lb/gal MIBK 3.75 lb/gal Toluene 4.97 lb/gal	N/A	N/A	Hourly emission rates based on: 0.5 gal/hr Methylene Chloride, 0.5 gal/hr M-1055, 1 gal/hr acetone, 15 lb/hr Lacquer (Telecom Cable), 1 gal/hr Varsol, and 1.0 gal/hr ink/extender. Annual emission rates based on: 360 gal/yr Methylene Chloride, 360 gal/yr M-1055, 3000 gal/yr Acetone, 60000 lb/yr Lacquer (Telecom Cable), 2000 gal/yr Varsol, and 1,300 gal/yr ink/extender.
SN-09	MSDS	Quickkote: 15 wt% VOC	Baghouse	97%	Hourly VOC emission rate based on 11.6666 lb/hr Quickkote. Hourly lead emission rate based on a worst case of 2000 hr/yr. Annual emission rates based on 58333.33 lb/yr Quickkote and 35,000 lb/yr lead dust produced.

SN	Emission Factor Source	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
SN-10	Material Balance, MSDS	Tape: VOC 4% by weight Formaldehyde 0.0061% by weight Release Agent: VOC 18% by weight Ethylene Glycol 3.5% by weight Formaldehyde 0.04% by weight	N/A	N/A	Hourly emission rates based on 250 lb/hr tape and 75 lb/hr release agent. Annual emission rates based 42,000 lb/yr tape and 12,000 lb/yr release agent.
SN-11	AP-42, Natural Gas Combustion Factors	PM/PM ₁₀ : 7.6 lb/MMft ³ SO ₂ : 0.6 lb/MMft ³ VOC: 5.5 lb/MMft ³ CO: 84 lb/MMft ³ NO _x : 100 lb/MMft ³	N/A	N/A	4.2 MMBTU/hr
SN-12	Rubber Tire Manufacturing Industry	Thermoset compounds: 0.002 lb VOC/25.3 lb Thermoplastic compounds: 0.191 lb VOC/ton 1.0 wt% acetophenone (from the decomposition of cumene peroxide) 67% of acetophenone emitted based on testing	N/A	N/A	Hourly emission rates based on 1,200 lb/hr each of thermoset, acetophenone producing compounds, and thermoplastic compounds. Annual emission rates based on 8760 hr/yr. Cap of 9.9 tpy acetophenone (VOC).
SN-14	Rubber Tire Manufacturing Industry	Thermoset compounds: 0.002 lb VOC/25.3 lb Thermoplastic compounds and resin line emissions: 0.191 lb VOC/ton 1.0 wt% acetophenone (from the decomposition of cumene peroxide) 67% of acetophenone emitted based on testing	N/A	N/A	Hourly emission rates based on 750 lb/hr of thermoset/acetophenone producing compounds or thermoplastic compounds. Annual emission rates based on 8760 hr/yr. Cap of 9.9 tpy acetophenone (VOC).

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13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
N/A				

14. 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)
N/A				

15. 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)
SN-05	Thermoplastics usage	3,000,000 lb/yr	Monthly	N
SN-06 and SN-08	VOC Emissions	34.2 tons/year	Monthly	N
SN-06	MSDS (or equivalent) for VOC Content	Chemlok: 6.93 lb/gal Toluene Extender: 7.18 lb/gal	As Needed	N
SN-06	MSDS (or equivalent) for Pollutant Content	Chemlok: Ethyl Benzene 1.54 lb/gal Xylene 5.39 lb/gal Toluene Extender: Toluene 7.18 lb/gal	As Needed	N
SN-07	Thermoset Compound Usage	30,000,000 pounds/year	Monthly	N
SN-07, SN-12, and SN-14	Acetophenone Emissions	9.9 tpy	Monthly	N
SN-07	Adhesive (DOP) Usage	360 gallons/year	Monthly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
SN-07, SN-12, and SN-14	MSDS (or equivalent)	1.0 wt% acetophenone (from the decomposition of cumene peroxide)	As Needed	N
SN-07, SN-12, and SN-14	Acetophenone- producing thermoset compounds usage	99,000 lb/day	Daily	N
SN-07	MSDS (or equivalent)	Adhesive (DOP): 8.2 lb VOC/gal 8.2 lb di(2- ethylhexyl)phthalate/gal	As Needed	N
SN-08	Material Throughput	Acetone 3,000 gal/yr Lacquer (Telecom Cable) 60,000 lb/yr Ink/Extender 1,300 gal/yr	Monthly	N
SN-08	MSDS (or equivalent) for VOC Content	M-1055: 7.5 lb/gal Lacquer (Telecom Cable): 25% by weight Varsol: 6.34 lb/gal Ink/Extender: 9.84 lb/gal	As Needed	N
SN-08	MSDS (or equivalent) for Pollutant Content	Methylene Chloride Solvent: Methylene Chloride 11.0 lb/gal M-1055 Solvent: MIBK 3.75 lb/gal Lacquer (Telecom Cable): Acetone 25 wt% Methanol 20 wt% Toluene 5 wt% Varsol: Ethyl benzene: 0.04 lb/gal Xylene 0.32 lb/gal Ink/Extender: Acetone 4.02 lb/gal MIBK 3.75 lb/gal Toluene 4.97 lb/gal	As Needed	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
SN-09	VOC Emissions	4.4 tons/year	Monthly	N
SN-09	MSDS (or equivalent) for VOC Content	Quickkote Lead Release Agent: 15% by wt	As Needed	N
SN-09	Material Throughput	Lead Dust Produced 35,000 pounds/year	Monthly	N
SN-09	Material Throughput	Lead Dust Produced 120 pounds/day	Daily & Monthly	N
SN-09	Baghouse Maintenance Inspection Log	N/A	Weekly	N
SN-10	Material Throughput	Tape: 42,000 pounds/year Release Agent: 12,000 pounds/year	Monthly	N
SN-10	MSDS (or equivalent) for VOC Content	Tape: 4% by weight Release Agent: 18% by weight	As Needed	N
SN-10	MSDS (or equivalent) for Pollutant Content	Tape: Formaldehyde 0.0061% by weight Release Agent: Ethylene Glycol 3.5% by weight Formaldehyde 0.04% by weight	As Needed	N
Plantwide	HAP Emissions	9.5 tons/year single HAP (except acetophenone) 23.75 tons/year total HAPs (include acetophenone)	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
SN-01 through SN-04, SN-11, SN-13	5%	Department Guidance	Natural Gas Combustion
SN-05	5%	Department Guidance	---
SN-09	5%	Department Guidance	Baghouse Operation

17. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
None requested with this permit modification.								

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
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20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Thomas Rheume, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Facility Name: AmerCable, Inc.
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			Old Permit	New Permit
\$/ton factor	22.07	Permit Predominant Air Contaminant	56.5	56.5
Minimum Fee \$	400	Net Chargeable Emission Increase	0	
Minimum Initial Fee \$	500	Permit Modification Fee \$	400	
Check if Administrative Amendment	<input type="checkbox"/>	Initial Permit Fee \$	0	
		Annual Chargeable Emissions (tpy)	56.5	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	2.1	2.1	0
PM ₁₀	2.1	2.1	0
SO ₂	0.6	0.6	0
VOC	56.5	56.5	0
CO	11.2	11.2	0
NO _x	13.4	13.4	0
Lead*	0.6	0.6	0
Acetophenone*	9.9	9.9	0
Di (2-ethylhexyl) phthalate*	1.48	1.48	0
Ethyl Benzene*	0.86	0.86	0
Ethylene Glycol*	0.21	0.21	0
Formaldehyde*	0.01	0.01	0
Methanol*	6	6	0
Methylene Chloride*	9.5	9.5	0
Methyl Isobutyl Ketone*	9.5	9.5	0
Toluene*	9.5	9.5	0
Xylene*	3.78	3.78	0
Total HAP	23.75	23.75	0
Acetone	20.2	20.2	0
*HAP	0	0	0

