

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0759-AR-12 AFIN: 47-00194

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Evonik Cyro, LLC  
1500 Richard Prewitt Drive  
Osceola, Arkansas 72370

3. PERMIT WRITER:

Jude Jean-Francois

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Unlaminated Plastics Film and Sheet (except Packaging)  
Manufacturing  
NAICS Code: 326113

5. SUBMITTALS:

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
3/15/2016	Modification	Adding 3 CI emergency engine (SN-62, SN-63, SN-64)

6. REVIEWER'S NOTES:

Evonik Cyro, LLC (CYRO) owns and operates a facility at 1500 Richard Prewitt Drive, Osceola, which manufactures polymer pellets and sheets. This permit modification is to remove Specific Conditions related to the voluntary LDAR program and to add three compression ignition emergency engines, SN-62, SN-63, and SN-64.

The total emission changes include +0.8 PM/PM<sub>10</sub> tpy, +0.7 SO<sub>2</sub> tpy, +4.8 VOC tpy, +1.9 CO tpy, +8.2 tpy NO<sub>x</sub>, and +4.30 tpy Total HAPs

7. COMPLIANCE STATUS:

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

The facility was last inspected on January 28, 2016 and was found to be out of compliance. The facility is not maintaining quarterly records of fugitive emissions as required for demonstrating compliance with the 0.4 tpy limit for SN-59 (Fugitive Equipment Leaks) found in Specific Condition 2. The facility utilizes three unpermitted diesel fired stationary internal combustion engines operating two generators and a back-up fire pump.

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  $\geq 100$  tpy and on the list of 28 or single pollutant  $\geq 250$  tpy and not on list*

If yes, explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
01, 02, 03, 19	VOC, Record Tank Size	40 C.F.R. pt. 60 Subpart Kb
62, 63, 64	HAPs	40 C.F.R. § 63 Subpart ZZZZ

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved.

b) Non-Criteria Pollutants:

Based on Department procedures for review of non-criteria pollutants, emissions of non-criteria pollutants are below thresholds of concern.

c) H<sub>2</sub>S Modeling:

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 H<sub>2</sub>S Standards  
 If exempt, explain: No H<sub>2</sub>S emitted

Y

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
1, 2, & 3	Tanks	VOC = 0.1 lb/hr MMA = 0.1 lb/hr			
5 & 50	Manufacturer's estimate	PM = 0.1 lb/hr SO <sub>2</sub> = 0.1 lb/hr VOC = 0.1 lb/hr CO = 0.8 lb/hr NO <sub>x</sub> = 1.1 lb/hr	None		Natural gas combustion
22, 27-30, 52-54, 58	Manufacturer's specifications	PM = 0.1 lb/hr 5 mg/m <sup>3</sup> dust in the air outlet	Bag Filter	99.95%	Maximum annual possible
31 & 32	Manufacturer's estimate & specifications	PM = 0.1 lb/hr SO <sub>2</sub> = 0.1 lb/hr VOC = 0.2 lb/hr CO = 1.4 lb/hr NO <sub>x</sub> = 0.1 lb/hr MMA = 0.1 lb/hr EA = 0.1 lb/hr			
35	Equipment specifications	PM = 0.2 lb/hr			Maximum annual possible
42	Equipment specifications	PM = 0.4 lb/hr			Maximum annual possible
49 & 51	Manufacturer's specifications	PM = 0.1 lb/hr SO <sub>2</sub> = 0.1 lb/hr VOC = 0.1 lb/hr CO = 2.6 lb/hr NO <sub>x</sub> = 0.1 lb/hr	Catalytic Oxidizer	99.0%	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		MMA = 0.9 lb/hr			
56	Worst case based on manufacturer's specifications	PM = 0.1 lb/hr 12.0 grains/A.C.F.	Bag Filter	99.9%	
58	Manufacturer's specifications	PM = 0.1 lb/hr	Bag Filter	99.9%	
59	EPA, 1995 protocol for Equipment leak emission estimates	<u>Lbs/hr services</u> Valves = 0.000363 Connectors=0.000179 Open Ends = 0.00330 Pump Seals =0.004110			
60	Engineering Estimation	Engineering Estimation	Cartridge Filter	95%	
61	On-line Color Extrusion throughput	Percent of dust removed (1.85%)	Baghouse	99.0%	
62, 63, 64	AP-42 Chapter 3.3, 34	<u>Up to 600hp (lb/hp-hr)</u> PM/PM <sub>10</sub> =.0022 SO <sub>2</sub> =.00205 VOC=.00252 CO=.00668 NO <sub>x</sub> =.031			Emergency Generators

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
31, 32, 49, 51	Methyl Methacrylate, Methyl Acrylate	#18	Once every five years	Reg.19.702

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)
05 & 50	Natural Gas Usage	Meter	Monthly	N
49 & 51	Catalytic Oxidizer Temperature	CPMS	Continuously	N

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)
05, 50	Natural Gas Usage	78.84 MMcf per rolling 12-month period	Monthly	N
60	Acrylic Sheets processed	24,226,700 pounds per consecutive 12-month period	Monthly	N
01	Tank Dimensions and Volume Calculation	1,136 m <sup>3</sup>	Once	N
02	Tank Dimensions and Volume Calculation	151 m <sup>3</sup>	Once	N
03, 19	Tank Dimensions and Volume Calculation	75 m <sup>3</sup>	Once	N
01	VOC stored and the maximum true vapor pressure of that VOC	Determined by §60.116b(e)(3)	As necessary	N
01	Maximum tank turnovers	100 turnovers per consecutive 12-month period	Monthly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
02	Maximum tank turnovers	100 turnovers per consecutive 12-month period	Monthly	N
03	Maximum tank turnovers	30 turnovers per consecutive 12-month period	Monthly	N
62, 63, 64	Hours of operation	500 hours/year	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
05, 22, 27 – 32, 35, 42, 49 – 54, 56, 58, 60 & 61	5%	Reg.18.501	Upon inspection
62, 63, 64	20%	Reg.19.503	Inspection Observation

17. DELETED CONDITIONS:

Former SC	Justification for removal
9, 10	Termination of the performance track program (LDAR)

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
No new insignificant activities were added with this permitting action.								

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0759-AR-11

## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: Evonik Cyro, LLC  
 Permit Number: 0759-AR-12  
 AFIN: 47-00194

			Old Permit	New Permit
\$/ton factor	23.93	Permit Predominant Air Contaminant	13.8	20
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	6.2	
Minimum Initial Fee \$	500	Permit Fee \$	400	
Check if Administrative Amendment <input type="checkbox"/>		Annual Chargeable Emissions (tpy)	20	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	13.8	14.6	0.8
PM <sub>10</sub>	13.8	14.6	0.8
PM <sub>2.5</sub>	0	0	0
SO <sub>2</sub>	3	3.7	0.7
VOC	5.3	10.1	4.8
CO	42.2	44.1	1.9
NO <sub>x</sub>	11.8	20	8.2
Single HAPs	3.5	3.1	-0.4
Total HAPs	4.5	8.8	4.3