

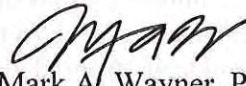


COMMONWEALTH OF PENNSYLVANIA  
Department of Environmental Protection  
Southwest Regional Office

TO AQ Case File TVOP-65-00137

FROM Noor Nahar   
Air Quality

THROUGH Barbara Hatch, P.E.   
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DATE April 22, 2013

RE Review of Title V Operating Permit Renewal Application  
Vandergrift Facility  
Allegheny Ludlum LLC.  
Vandergrift Boro., Westmoreland County

APS 770454 AUTH 911012 PF 194932

**Background**

The Vandergrift plant is a finishing and rolling facility that produces stainless steel sheet and strip products for specific customer use. Plant is located in Vandergrift Boro., Westmoreland County. The finishing operations at this facility primarily include two annealing and pickling lines, two boilers and two cold reduction mills which collectively emit major source levels of oxides of nitrogen.

The initial Title V Operating Permit (TVOP) was issued on July 31, 2002 with an expiration date of July 30, 2007. A renewal Title V Operating Permit Application was received on February 2, 2007 and deemed complete.

Since the issuance of the initial TVOP, on October 14, 2004, DEP exempted from Plan Approval the installation of a pre-filter at their Z-8 Cold Rolling Mill and the replacement of an existing cooling tower. The pre-filter was to reduce the particulate loading to the existing candle filter unit and the cooling tower was replaced with a similar but modern unit.

On November 3, 2009, DEP exempted from Plan Approval the replacement of No. 90 Anneal and Pickle line mixed acid pickling scrubber.

On June 13, 2011, company made a Minor Operating Permit Modification Application, no physical change in operation or emission increase. Company requested to remove Condition

#006 for source ID 103, that limits the oil mist eliminator differential pressure to 12 inches. This change has been made in this renewal permit.

On January 18, 2012, company submitted a requested for a change of ownership. The name of the owner has been changed from Allegheny Ludlum Corporation to Allegheny Ludlum LLC.

**Emissions and Control Equipment**

The facility has two annealing and pickling lines –Line 90 and Line 91. Line 90 consists of annealing furnace, shot blaster, two mixed acid pickling tanks (HF/HNO3), one H2SO4 acid tank, water rinse and strip dryer. The HF/HNO3 pickling tanks are controlled by a two stage caustic packed tower scrubber and the H2SO4 acid tank is controlled by a single stage caustic packed tower scrubber. NaHS is added to reduce the NOx emission. The shot blast unit is controlled by a 20,000 ACFM baghouse.

Line 91 consists of annealing furnace, an ESS (electrolytic sodium sulfate) scale removal, one (HF/HNO3) acid pickling tanks, one H2SO4 acid pickling tank, water rinse and strip dryer. The HF/HNO3 pickling tank is controlled by a four stage caustic packed tower scrubber and the H2SO4 acid tank is controlled by a single stage caustic packed tower scrubber. NaHS is added to reduce the NOx emission.

There are two sendzimer (#8 Z-Mill & #9 Z-Mill) cold reduction mills for sizing stainless steel strip coils. The emissions from each mill are controlled by individual candle filters. There are two identical natural gas-fired boilers each rated 26 mmbtu/hr to provide steam for the facility. Numerous natural gas fired space heaters; each rated less than 10mmbtu/hr is located throughout this facility. Combined heat capacity of all space heaters is 90 mmbtu/hr. Other insignificant sources at this facility are listed Miscellaneous Section of this permit.

**Table 1: The Facility-wide PTE (tpy) as provided by the company on December4, 2012 is summarized as follows:**

DEP ID	Source	PM10	SO2	CO	NOx	VOC
103	Z-8 Mill	46.0				
114	Z-9 Mill	16.2				
<b>Line90</b>						
120A	90 A&P - Annealing Furnace	1.6	0.1	18.0	26.0	1.2
120B	90 A&P - Shot Blast	5.1				
120C	90 A&P - H2SO4 Pickling	0.5				
120D	90 A&P - HNO3/HF Pickling	0.5			140.2	
120E	90 A&P - Strip Dryer	0.04	0.003	0.5	0.6	0.03
<b>Line91</b>						
121A	91 A&P - Strip Dryer #1	0.04	0.003	0.5	0.6	0.03
	91 A&P - Strip Dryer #2	0.04	0.003	0.5	0.6	0.03
121B	91 A&P - Annealing Furnace	0.3	0.1	15.0	29.3	1.0
	91 A&P - ESS	0.5				

121C/D	Descaling/H2SO4					
121E	91 A&P - HNO3/HF Pickling	0.5			74.3	
031	#1 Boiler	0.8	0.07	9.3	11.1	0.6
032	#2 Boiler	0.8	0.07	9.3	11.1	0.6
116	Misc Space Heaters	2.9	0.2	32.1	38.3	2.1
112	Cooling Tower #1	0.6				
115	Cooling Tower #2	0.8				
113	Paved Roads	2.5				
****insignificant units****						
108	66" Temper Mill					
111	Parts Cleaners (maintenance)					4.5
MISC	Lime Silo	0.05				
MISC	TSP /BS100 Silo	0.05				
MISC	AST 028A					0.8
MISC	Misc Paint Usage (maintenance)					9.5
<b>TOTAL (tons/year)</b>		<b>80.0</b>	<b>0.6</b>	<b>85.2</b>	<b>331.8</b>	<b>20.3</b>

**Table 2: Emissions established in RACT Permit (65-000-137)**

Emission Source	NOx Emission Limit (tpy)
No. 90 A&P line (furnace)	25.9
No. 90 A&P line (scrubber)	103.0
Boiler # 1	14.3
Boiler # 2	14.3
Roller Hearth Line	10.6

The potential NOx emission limits in the above Table 1 for Boilers 1 & 2 lower and for Line 90 are higher than the limits established through RACT Permit #65-000-137. The potential NOx emission limits in the above Table 1 for Line 91 are also higher than the limits established through Permit #65-307-076. Therefore, company agreed to operate within the limits established by RACT permit and Permit #65-307-076 and carried over to the initial Title V permit. This facility is not major source for HAPs emission.

### **Regulatory Analysis**

All of the conditions derived from Title 25 of the Pennsylvania Code in the original Title V permit have been included in this renewal. A RACT Operating permit #65-000-137 was issued for this facility in 1995. The facility went through NSR and PSD review requirements through Plan Approval PA-65-000137A for the installation of Sendzimir Z-9 Mill in 1997 and PA-65-307-076 for the installation of Line 91 in 1998. All the requirements from above referenced Plan Approvals were included in the initial TV Operating Permit and have been carried over to this TV Operating Permit renewal. Vandergrift is considered a finishing mill; no steel is produced at this location. There are no NSPS or NESHAPs that are applicable to this facility.

The Compliance Assurance Monitoring (CAM) provisions of 40 CFR 64 applies when all of the following are true:

1. The source is located at a Title V facility,
2. The source is subject to an emission standard,
3. The source uses a control device to achieve compliance with the emission standard, and
4. Emissions from the source, without the control device, exceed major source thresholds.

Vandergrift has identified the following sources and associated control devices to be subject to CAM:

SOURCE ID 103 – Z8 COLD ROLLING MILL / OIL MIST ELIMINATOR (C103)

SOURCE ID 114 – Z9 COLD ROLLING MILL / OIL MIST ELIMINATOR (C114)

SOURCE ID 120B – NO. 90 A&P LINE SHOT BLAST / BAGHOUSE (C120B)

SOURCE ID 120D – NO. 90 LINE HF-HN03 PICKLING / FUME SCRUBBER (C120D)

SOURCE ID 121E – NO. 91 LINE HF-HN03 PICKLING / FUME SCRUBBER (C121E)

Vandergrift has proposed the use of existing testing, monitoring and recordkeeping requirements as CAM. Appropriate conditions have been added to the TVOP.

Additional conditions included in this TVOP are from Title 25 of the PA Code as well as appropriate testing, emission reduction, work practice standards, monitoring, recordkeeping and reporting requirements.

### **Conclusions and Recommendations**

Vandergrift has met the regulatory requirements associated with this application submittal. The attached permit reflects the applicable regulatory requirements associated with this facility. I recommend that the proposed Title V Renewal Operating Permit be issued for this site.