

COMMONWEALTH OF PENNSYLVANIA  
Department of Environmental Protection  
Southwest Regional Office

TO AQ Case File TVOP-65-00125

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Air Quality

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DATE January 15, 2014

RE Review of Title V Operating Permit Application  
Allegheny Ludlum LLC.  
Latrobe Facility  
Derry Township, Westmoreland County

APS 770406 AUTH 910937 PF 244639

### Background

Allegheny Ludlum LLC operates a steel mill located in Derry Township, Westmoreland County. The Latrobe facility produces high tech specialty stainless steel ingots. The plant utilizes one (1) Electric Arc Furnace (EAF) and one (1) Argon Oxygen Decarburization (AOD) vessel. The EAF is used to melt metallic scrap in the production of specialty / HTA (High Tech Alloy) products. Hot metal is refined in the AOD. The facility also contains Electroslag Remelt (ESR) furnaces, grinding operations and auxiliary natural gas combustion sources.

Plan Approval 65-307-054B was issued in 1996 to this site formally known as Teledyne Allvac, for the installation of an EAF Oxygen Lance, replacement of the existing baghouse, and the installation of the canopy hoods for the EAF and AOD. The company recognized that the facility was subject to the NSPS requirements for the EAF and elected to demonstrate compliance with NSPS opacity standard through the installation of a Continuous Opacity Monitoring system (COMs). However, the company experienced a great deal of difficulty finding a suitable location in which to place the COMs.

In the summer of 1997 Allegheny Ludlum (AL) purchased the facility but the name was kept the same. At the same time AL submitted a modification to Plan Approval 65-307-054B to

accommodate the addition of 2<sup>nd</sup> and 3<sup>rd</sup> shifts at the facility. The revised Plan Approval 65-307-054B was issued with the new production limits but the requirement to install COMs remained. AL continued to seek approval for the COMs until March of 1998 when they decided to pursue the option of determining compliance with NSPS opacity standard through visible emission readings. In summer of 2000, EPA responded to AL's request and indicated that DEP was the agency responsible for making the decision to allow the COMs requirement to be replaced with visible emission (VE) readings. Subsequently, on September 18, 2000 Plan Approval 65-307-054B was reissued for the 3<sup>rd</sup> time and the requirement to install COMs was replaced with the visible emission readings option. To demonstrate compliance with the NSPS opacity standard, personnel are required to perform EPA Method 9 VE observations each day that the facility operates during daylight hours and maintain records of the observations.

The Facility temporarily idled melt operations on September 15, 2000. A timely deactivation/maintenance/reactivation plan was submitted in August, 2001. On November 26, 2001, Allegheny Ludlum notified the Department that the Latrobe melt shop would be reactivated and anticipated that melt operations would resume on or about January 2, 2002.

Teledyne Allvac submitted an initial State Only Operating Permit application on December 4, 1996. The application was never acted upon. 40 CFR 63, Subpart YYYYYY – NESHAPs for Area Sources: EAF steelmaking facility was promulgated on December 28, 2007. In accordance with 40 CFR 63.10680(d), a facility subject to this rule must apply for a Part 70 permit. Allegheny Ludlum submitted a timely Title V permit application on December 29, 2008. In December 2011, Allegheny Ludlum submitted a Permit Modification Application to address an internal reorganization and name change.

PA DEP personnel have routinely inspected the Latrobe facility and applicable air quality monitoring records and found the Latrobe facility to be in compliance with applicable Air Quality requirements.

### **Emissions and Control Equipment**

The Latrobe facility is a specialty melting operation that features an Electric Arc Furnace (EAF) which is coupled to an Argon Oxygen Decarburization (AOD) unit, for the production of a wide variety of specialty alloy families. The Melt Shop at Latrobe produces many of ATI Allegheny Ludlum's and ATI Allvac's specialty and nickel alloys. The plant also contains Electroslag Remelt (ESR) furnaces, which provide the Latrobe facility the ability to efficiently support the needs of ATI's flat rolled and high performance metals products.

In 1997, Teledyne Allvac revised the Plan Approval 65-307-054B to increase the production limit from 30,000 tpy and 40,000 tpy respectively from the EAF and AOD to 55,000 tpy and 85,000tpy. Table below shows the potential emissions from this facility.



ALLEGHENY LUDLUM, LATROBE FACILITY

POTENTIAL EMISSIONS - JANUARY 2014

DEP ID:	Source	Max. Annual Throughput	Units	TPY					
				PM10	SO2	CO	NOx	VOC	Pb
101	EAF	55,000	tons/yr	29.3	8.3	35.8	14.3	33.0	2.3
102	AOD	85,000	tons/yr	34.0	4.3	56.1	8.5	11.1	0.13
103	Misc. NG Combustion	185	MMcf/yr	0.7	0.1	7.8	9.3	0.5	
<i>MISCELLANEOUS INSIGNIFICANT UNITS</i>									
MISC	Parts Cleaners							2.0	
MISC	Misc Paints							1.6	
MISC	Lime Usage			0.4					
MISC	ESRs (5 units)			0.15	1.5				
MISC	ESR Grinder			0.30					
MISC	Cooling Towers			0.5					
MISC	MS General Ventilation Baghouse			<0.1					
	<b>TOTAL (TONS/YEAR)</b>			<b>65.4</b>	<b>14.0</b>	<b>99.6</b>	<b>32.1</b>	<b>48.2</b>	<b>2.4</b>

The particulate matter allowed by 40 CFR 60 Subpart AAa, NSPS for EAFs limitation of 0.0052 gr/DSCF calculates to be 150 tons/yr. However, TVOP established a PM10 limit of 29.3 tons per year from the EAF. Compliance with the emission limits will be verified through stack testing, periodic monitoring and fuel specifications and usage.

### Regulatory Analysis

Per Pa. Code Title 25 Section 127.402(a), a permit is required to operate a stationary air contamination source.

The applicable emission limitation, monitoring, recordkeeping, reporting and work practice standard requirements of Pa. Code Title 25 Sections 123.1, 123.2, 123.13, 123.21, 123.31, 123.41, 123.42 and 135.5 have been included in this TVOP. The facility went through NSR review requirements through Plan Approval 65-307-054B in 1996 and 1997.

The Electric Arc Furnaces (EAFs) are subject to requirements of 40 CFR 60 Subpart AA, the NSPS for Steel Plants as they were constructed after the earlier effective date of October 21, 1974 but prior to August 17, 1983. The EAF at this facility was constructed prior to 1974. However, both EAF and AOD underwent significant modification under Plan Approval 65-307-054B. The modification made EAF subject to Subpart AAa which applies to each affected facility that commences construction, modification, or reactivation after August 17, 1983.

The applicability of 40 CFR 63, Subpart YYYYYY – NESHAP for Area Sources: Electric Arc Furnace Steelmaking Facilities has been evaluated. The Latrobe facility is an area source of HAP emissions that operates an Electric Arc Furnace and AOD, therefore Subpart YYYYYY applies. All the requirements have been incorporated from the initial TV Operating Permit and from Plan Approval 65-307-054B to this TV Renewal Operating Permit.

The Compliance Assurance Monitoring (CAM) provisions of 40 CFR 64 apply 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.

Allegheny Ludlum's Latrobe facility has identified the following sources and associated control devices to be subject to CAM:

Source ID 101 ELECTRIC ARC FURNACE

Source ID 102 AOD VESSEL

Latrobe facility 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:**

Allegheny Ludlum's Latrobe facility 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 Operating Permit be issued for this site.