COMMONWEALTH OF PENNSYLVANIA **MEMO**
Department of Environmental Protection
Southwest Regional Office

TO: Air Quality Case File OP-56-00159

FROM: Nicholas J. Waryanka, P.E.
Air Quality Engineer
Air Quality

THROUGH: Barbara Hatch, P.E.
Environmental Engineer Manager
Air Quality

Mark A. Wayner, P.E.
Regional Manager
Air Quality

DATE: June 10, 2011

RE: SOOP Renewal Application OP-56-00159
Somerset County Technical Center
Somerset Township, Somerset County
APS 743732 AUTH 870284 PF 511914

BACKGROUND

The Department received a synthetic minor renewal Operating Permit application on March 1, 2011 from the Somerset County Technology Center (SCTC) for one Tri-Fuel boiler which traditionally has burned only coal at their secondary school in Somerset Township, Somerset County. The school is located about one mile east of Somerset, PA on State Route 31. The SIC and NAICS Codes for elementary and secondary schools are 8211 and 611110, respectively.

Tri-Fuel Boiler, Source 031, is the main heating unit at the school. It is a CNB tri-fuel boiler, model #250-LW-CA/G rated at 8.5 mmBtu/hr that was installed in October 1986 under plan approval #56-302-018. This is a stoker-fired unit equipped Breslove separator for particulate matter control.

On September 21, 2009 the operating permit was administratively amended to change the responsible official, permit contact, and address for SCTC.

The application was deemed administratively complete on April 1, 2011. The previous renewal operating permit for SCTC expired on February 1, 2011.

SOURCES, CONTROL DEVICES AND EMISSIONS

In November 1996, William J. Charlton, Engineering Services Chief for the Department's SW Regional Office notified all permittees with coal-fired boilers in the region that their facilities would be considered major sources of sulfur dioxide (SO2) unless a restriction on coal usage was accepted. SCTC accepted a 2,000 tons per year (tpy) limit to avoid Title V operating permit requirements. This limit corresponds to the following potential to emit (PTE) estimates for the Tri-Fuel Boiler:

Table 1 – Tri-Fuel PTE After Limitation of 2,000 tpy Coal

Pollutant	PTE after limitation of 2,000 tpy coal
NO_x	9.1
CO	11.0
VOC	1.3
SOx	71.3
PM	15.0

This elective restriction has been included in the operating permit. The boiler has a typical actual annual coal usage of approximately 250 tons and generally operates October through April during the heating season. The boiler emissions were estimated using AP-42 Section 1.1 emission factors for bituminous coal. The Breslove Separator has an estimated particulate matter removal efficiency of 72%.

There are several small emission sources at this facility which have been previously determined in the previous operating permit to be of minor significance. They include the following:

- One (1) Onan Model #200101 propane-fired 30 kW emergency generator test fired weekly
- One (1) Burnham Model # 5K-200-50-G-PF, 8.35 mmbtu/hr propane-fired boiler used for backup purposes
- One (1) Detroit Diesel propane-fired 80 kW emergency generator

REGULATORY ANALYSIS

There are no new regulatory requirements which apply to this facility. There is one recently promulgated NESHAPs standard which potentially could apply to SCTC. 40 CFR Part 63, Subpart ZZZZ, Stationary Reciprocating Internal Combustion Engines (SRICE) applies to both major and area sources of hazardous air pollutants (HAPs). However, 40 CFR 63.6590(b)(3)(vii) exempts existing institutional emergency SRICE located at area sources of HAP emissions from having to meet the requirements of Subpart ZZZZ.

There are no applicable New Source Performance Standards. The Tri-Fuel Boiler is rated less than the minimum heat input rating (10 mmbtu/hr) for 40 CFR Part 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) applicability. Notable SIP standards which apply include 25 Pa. Code Section 123.11 – 0.4 lb PM/mmbtu, 123.22 – 4 lb SO2/mmbtu, the malodor provisions of 123.31, and the opacity standards of 123.41. As mentioned above, the boilers are limited to burning no more than 2,000 tons of coal per consecutive 12 month period. The permittee is required to do weekly monitoring for fugitive, visible, and malodor emissions and to keep records of the observations. Coal sulfur content is limited to 2.3% and ash content to 10%. Annual fuel usage records are required to be kept as well as coal analysis.

A site level condition has been added to permit which limits each emergency generator to 500 hours of operation per consecutive 12 month period and requires records of operation to be maintained.

CONCLUSIONS AND RECOMMENDATIONS

I have completed my review of SCTC's Synthetic Minor renewal application. SCTC has met the regulatory requirements associated with this application submittal. The attached draft permit includes the applicable regulatory requirements for this facility. I recommend that the proposed Operating Permit be issued for this for a five (5) year permit term.