

## SAD # 46 Wood Chip Heating System Tour Info

### **Leavitt High School in Turner, Maine**

Information per Gene Jordan (maintenance ) on 10.12.06 &  
Site tour on 10.25.06 with: Shawn Lancaster, Richard Pfirman, Steve Crane, Barry Brown, David Gudroe, Kevin Jordan, Steve Doel, Steve Blatt & Joe Hemes.

1. 166,000 SF school.
2. System installed 1999-operating 6 years
3. 30 -33 trucks with 30 tons +/- wood chips/truck a year, approx. 1 per week  
Trucks unload out the back with a 'walking floor'  
Chips are hardwood, very clean and consistent in size- wet chips are good.  
Chips from New Vineyard, ME (contact Paul Westin @ A. W. Chaffe 465-3234)
4. Chip storage bin approx 18' x 38' x 10 ft deep  
Semi-truck has to unload wood chips into each side of the bin.  
Bin holds almost 2 trucks worth of chips, but some chips have to be dumped on asphalt and loaded in later with bobcat. This can be avoided with better design.  
The Bin has a sliding roof. It would be better to back into a building with a large overhead door. Chip bin has a traveling auger that pulls chips onto a conveyor belt, which moves chip to boiler where it is measured through a box and augered into the fire box.  
SAD 46 would prefer a 2 week supply available in the bin.
5. Messersmith Boiler has stack temperatures 325-400 degrees and burns very clean.  
Less than 2 5 gallon pails of Ash goes into a dumpster and is trucked to Westbrook to be burned. Chip Boiler Room is about 20 feet high, with chip bin below that  
Burner use after 12,000 hours (1 ½ years)

Low Fire	1,600 degrees	31% of time
Med Fire	1,800 degrees	12 % of time
Hi Fire	2,200 degrees	2% of time
Standby		31% of time.
Pilot		22 % of time.
6. System is automated with digital controls that have 10 items that are on system alert including: Boiler Aquastat, Motor starters, low stack temp., stack transformer, communications, metering bin, Conveyor belt 1, belt 2, belt timer, air transducer. A phone call goes out if any of these are not working properly.
7. Maintenance requires about 1-hr per day.  
Twice a year scraping tubes (4 hours ) to increase maintain burn efficiency.  
Refractory walls of firebox rebuilt every 4 years approx \$1,200.  
  
Granger has all the parts required for service.  
Great service representatives at Messersmith, for adjusting system.
8. Smoke has entered into the school building on low pressure days, through the fresh air intake. Chimney may not be tall enough. Consider a separate building or intake location.
9. Vermont has 30 + schools with Wood Chip boilers, many are Messersmith.
10. SAD 46, Steve Doel & SBA very pleased with the simplicity and automation of the system.

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