

Biomass Heating Integration Workshop

March 3-4, 2014



Workshop Agenda

John Siegenthaler, Principal, Appropriate Designs will present a two-day workshop detailing best practices for high efficiency wood-fired and pellet-fired boilers.

Monday March 3rd

8:30 am - Introduction and workshop overview

- Why hydronics?
- The importance of hydronics to renewable energy
- Topics to be covered and explanation of order

9:00 am - Wood gasification boiler application

- Wood as a heating fuel
- Wood gasification boilers
- Protecting boilers against sustained flue gas condensation
- Thermal storage options (unpressurized and pressurized storage)
- One example system (wood gasification boiler as sole heat source)

11:00 am - Morning Break

11:15 am - Pellet fueled boiler application

- Pellet-fueled boilers
- Pellet storage options (bag silos and exterior silos)
- Pellet fuel supply systems (Pneumatic transport systems)
- One example system (pellet fueled boiler as sole heat source)
- One example system (pellet fueled boiler as sole heat source)

12:45 pm - Lunch

1:15 pm - State-of-the-art hydronic detailing (part 1)

- Hydraulic separation in hydronic system design
- Distribution efficiency in hydronic system design
- Application of high efficiency ECM-based circulators

4:45 pm - Adjourn



Agenda Continued..

Tuesday March 4th

8:30 am - State-of-the-art hydronic detailing (part 2)

- Low temperature heat emitter options (radiant panel or other options)
- Heat metering - latest concepts
- Low temperature hydronic distribution systems

10:30 am - Morning Break

10:45 am - State-of-the-art hydronic detailing (Continued)

- Mixing options (valves and variable speed injection pumps)
- How to employ outdoor reset control (heat source reset & mixing reset)
- Options for on demand domestic water heating (hydronic approach)

1:45 pm - Lunch

2:15 pm - More system examples using state-of-the-art detailing

- Wood gasification boiler (complete system #2)
- Wood gasification boiler (complete system #3)
- Pellet-fueled boiler (complete system #2)
- Pellet-fueled boiler (complete system #3)
- Pellet-fueled boiler (complete system #3)

4:15 pm - Adjourn

Workshop Information

- Workshop Location:** Mountain View Branch Public Library
120 Bragaw Street, Anchorage Alaska
- Contact Information:** For all questions regarding registration, agenda, and venue please contact Amanda Byrd at agbyrd@alaska.edu, or (907) 474 6728.
- Lunch, snacks and coffee:** Will be provided both days. If you require gluten free, please contact Amanda.
- Continuing Education:** Up to 14 hours of Continuing Education Credits will be available through State of Alaska for Engineers and Architects.

