

## SAD # 46 Design Development May 1, 2007 Meeting Notes

A Mechanical Systems Committee Meeting was attended by:

David Gudroe  
Barry Brown  
Steve Foster  
Julie Richard  
Allyson Saunders  
Juanita Staples  
Richard Pfirman  
Kevin Jordan

Steve Doel                      Bennett Engineering  
Joe Hemes                      SBA

Not Present: Shawn Lancaster, Terry Staples, Ron Fanjoy, Gary Perkins, Mike McCormick  
Andrea Rollins, Corey Wyman, Ernest Rollins, Don Goerlitz, Michael Bennett, Fred Shurburne

### **SEE PRINTED NOTES**

#### Recommendations for Mechanical Systems dated April 30, 2007

Comments as follows:

1<sup>st</sup> floor classrooms with radiant heat have slow temperature change due to mass of concrete floor and may not be able to be controlled quick enough for teachers. Carpets may would require higher temp water loop .

2nd floor Classrooms- fancoil units for heat controllable

AC areas proposed include: Superintendents office, Clinic, Front office, media center. Discussion on larger areas for AC including cafeteria, music & art rooms, Literacy Professional Development Center. Should a classroom area be provided for summer classes etc? DOE supports minimum AC only. Additional AC options may have to be a local only additional cost. Units can be designed for future AC cooling coil.

Loop system for hot water delivery (heating and domestic use) was reviewed in detail including how the loop works with parallel supply and return lines that minimize recirculation of water. The line is always heated and circulating to provide hot water when needed, but the small diameter, insulated pipes do not have a large heat loss and VFD's on pumps are efficient.

Can several smaller loops be more efficient?

Steve Doel said more loop piping has materials/controls required, less efficient.  
Steve will review this further.

Can point of use water heaters be used anywhere?

Not for any major use- expensive electrical usage & first cost & PUC energy savings are issues.

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Radiant Floor heating for kitchen, cafeteria, lobby, locker rooms are acceptable.

2. **Wood Chip Boiler-** to be reviewed after some design work is completed. There will be a 100% oil fired back-up which should work during the shoulder seasons when temperatures are mild. A video with information on the system will be forwarded for Owner's review.
3. **DDC Controls-** Direct Digital Controls are recommended for controlling the system, which can be done from a computer. Specific rooms can be reviewed for how they are heating & cooling, and can be adjusted by Owner's or a maintenance contractor. Also, any problems with the system can be reviewed by Maintenance provider from afar and can make recommendations on changes. Pneumatic controls, which David Gudroe currently uses are not installed in new buildings anymore, because they tend to not be calibrated correctly and are more difficult to control.

A list of several facility managers who use both types of controls will be forwarded for Owner's review.

DDC Controls should have plenty of locations for gathering information.

4. **Plumbing Systems:** DOE has approved the 'water loop' of Town water, which will supply water for domestic and sprinkler. Water saving toilets, waterless urinals, and automatic faucet controls will be considered to reduce water usage and sewerage fees.

Valve tagging of direction of flows is standard practice and specified in drawings.

5. **Schedule:** We will need to meet in 3- 4 weeks so committee can select a system for the school. The Owner's need to do some research on radiant heating and DDC controls.

SBA to forward information for review

CC: K. Jordan, S. Blatt, S. Doel