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Mr. Tim Korn, PMP, CEFPP
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RE: Life Sports Complex
Solar Heat Innovations

The Solar heating system located at the Life Sports Center at Muhlenberg College, in Allentown, Pa consists of twenty-four (24), Model ENE24 solar heating panels as manufactured by Eartnet. The estimated capacity is 1,224,000 Btu/day with an estimated annual production of 446 Decatherms.

Typical solar heating systems are used to provide supplemental heat to a specific component of a building heating systems. For example, it is very common to use solar for heating domestic Hot Water. The application of solar heating at this Sports Complex provides a challenge due to its diverse use. At any given time, the load of a particular heating system is constantly fluctuating due to the diverse use. In order to compensate for these varying and shifting loads, the piping and controls scheme for this Solar Heating system was designed in such a manner where the Solar load may be continually shifted throughout the complex to provide supplement heat where the greatest demand exists.

This innovative design and control strategy allows the solar heat to be applied to Pool Heating, Domestic Hot water heating, air system reheat, and general building heat. With the use of the Building Automation System, we are able to monitor the temperatures of each system and shift the Solar source to the building system requiring the greatest heating demand. The 2-way diverting valves located throughout the solar system divert the Solar water to the systems. This design will allow for maximum use of solar heating within the complex throughout the year.

Sincerely,



Kevin J. Buxton, PE, LEED
Partner

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