Questions and Requests for Vendors of Control Systems

Draft document from the Interfaith Coalition on Energy, January 26, 2006

Often, however, we hear from congregations who have been approached by sales people selling energy management, building automation systems, or other types of complicated control systems. We have prepared the following questions to ask such sales people before you purchase these computerized systems:

Guarantees of quality

1. If you guarantee savings from installation of your system in our facility, may we see a copy of that guarantee?
2. What year was this system first sold?
3. What is the oldest, currently operating system you have installed?
4. Provide the contact information for at least five similar projects with your equipment that have been in operation for at least five years.
5. If you are purchasing a replacement system, tell the vendor what happened to the others. Ask why their system will last any longer than the others or those of their competitors.

Ongoing support

6. Does the operation of the system require schooling? If so, will you train, without charge, replacement managers that you hire? Show me an example of the curriculum you use for the training.
7. Show me an example of the documentation you leave for the facility manager of how to operate the system.
8. Do you still support it with free updates of software?
9. Provide the contact information for three other contractors in this area that can service and maintain your system.
10. Is special or proprietary software required for people to get access to your system from remote locations, either by using a modem or the internet?
11. What provisions are made for backing up the software in your system.
12. Will you be introducing new models or versions of this system in the next year?
13. What is the labor and parts warranty on the components of the system that you install?
14. What are your ongoing annual service and maintenance costs?
15. Where are parts available in this area?

16. Do you provide system service as part of preventive maintenance? Provide a written letter outlining the hourly cost of your consulting services and annual contracts that detail the services covered.

Details of the system

17. Will the system that you propose monitor the utility company meters in real time?
18. If the system is wireless or uses power line carrier technology, what insurances do you provide against signal interference from other wireless devices? Whose responsibility is it to correct problems and for what period of time? (Power line carrier uses existing electric wiring in your facility to transmit control signals at a different frequency.)
19. How does the installation of your system give occupants more control over their comfort?
20. What security procedures are built in to your software? How can the programming be easily changed if you and I are both on vacation?
21. Can the benefits of your system be had by using simpler and less expensive technology?
22. What is it that you and your system do that no one else can, and how does that provide cost savings?
23. If a lightning strike takes out your system five years from now, will you repair it without charge? Is there a time limit beyond which you won't offer such services?
24. Will reprogramming be required after a power failure?
25. After the system is installed, is the performance the system and its interaction with the HVAC system and the operation of the HVAC system verified by a third party? If yes, what is the cost and what written documents do you provide to insure proper operation of these systems? Provide qualification of the person(s) who will verify the performance the systems.

Details about the installation process

26. When can you start?
27. How long will the installation take?
28. Will we have to change any of our procedures during the installation of your system?
29. What are your space requirements for the installation?

Tankless Water Heaters

Some congregations are interested in domestic water heaters that have no water storage tank. In a natural gas tank-type water heater, heat is lost because of a standing pilot light and conduction through the jacket of the tank. More important, the same stack through the middle of the tank used to extract heat from burned flue gases acts in reverse when the flame is not there, pulling heat out of the tank of stored water and sending it up the chimney. Tankless water heaters eliminate these losses of heat.

The July/August issue of *Home Energy* magazine contains a good article about tankless heaters by Marc Hoeschele and Dave Springer of the Davis Energy Group in California. The print data showing that tankless water heaters typically operate between 60% and 80% efficiency, while tank type water heaters are 5% to 50%. From an efficiency standpoint, it would make sense to buy and install tankless heaters. Then they list the barriers to their acceptance:

- Higher cost for tankless heaters was the most important deterrent.
- Tankless water heaters require larger gas pipe sizes than tank-type heaters.
- Indoor installations require Category 3 stainless steel chimneys. Tank-type chimneys are less expensive
- Most tankless heaters require 120-volt power. Most tank-type heaters don't.
- Most tankless heaters therefore will not operate during a power blackout. Most tank-type ones will.
- Manufacturers of tankless heaters recommend periodic removal of deposits inside the heater, using a mild acid solution. Without flushing them, they may cease to operate.
- Tankless heaters require special installation training.
- Tankless water heaters require 5 to 15 seconds to heat water. In recirculating hot water systems, this means an occasional shot of cold water mixed in with heated water.
- Building code officials may not understand tankless heaters and therefore may not allow their installation.
- Tankless heater are not recommended for installations in homes that have galvanized steel piping unless a filter is added to the water inlet pipe to prevent scale from entering the heater.
- While big-box retailers offer tankless heaters, the vent kits are offered only through wholesalers.
- Tankless heaters require more careful sizing than tank-type heaters.
- Some building officials feel that the bigger market for tankless heaters is in luxury homes that need unlimited hot water volume.
- Tankless heaters require a minimum flow rate, usually a half gallon per minute, to operate. Below that rate, they won't turn on. Single-lever faucets may not allow the flow rate to get that high.

So, efficiency may not be the most important factor in deciding to purchase and install a tankless water heater. The complete report is at
http://207.67.203.54/Qelibrary4_p40007_documents/Tankless%20water%20heater.pdf

From ICE Enthusiasts:

Thanks for your help.

Bob Curcio about a boiler installation at St. Philip Neri parish, Queen Village, Philadelphia

It was fascinating meeting with you on Tuesday, and I look forward to catching your enthusiasm for boiler rooms.

Shawn Maeder, Property Manager, Church of the Redeemer, Bryn Mawr

INTERFAITH COALITION ON ENERGY

There are a number of reasons to give money to us:

- You may have extra money lying around, and you don't know what to do with it.
- Perhaps you want to support an energy conservation organization that solely represents the interests of people of faith.
- Maybe you like ICE; maybe one of our articles or a phone conversation saved your congregation money.
- Your contribution is tax-deductible.

Whatever your reasons, please send ICE a check so that we may continue to serve.

ICE, 7217 Oak Avenue, Melrose Park, PA 19027

Thanks. ICE