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systems also must be considered. It may be time to add a new unit and keep the old one as a backup.

3. Know Local Air Regulatory Requirements

Check local agencies for current and possible regulatory changes. Repairs plus retrofitting for new burners can be expensive. Replacement might be the better long-term option.

4. Review Current Equipment Limitations

Modern boilers incorporate improved control systems. Adding economizers also can improve operating efficiencies. Review the current equipment and see how much can be done before initiating extensive retrofits and repairs of existing technology.

5. Look at Operating Cost, Not Just Capital Cost

If the decision is made for new equipment, base the choice on a 10-year operating cost cycle, not just capital cost. You are not buying the boiler to look at it but to run it. The amount spent on fuel will overshadow the capital cost many times over.

6. Pick the Unit That Fits Your Operating Profile

With a full understanding of when and how steam is used, pick a unit or multiple units that fit the profile, maximizing the efficiency throughout the intended range of operation. If the boiler does not run continuously, consider quick-starting units that can save costs in both fuel and operating labor.



When evaluating boilers, determine whether a change in plant operating profile or an economizer is justified.

A new boiler should deliver dry steam rapidly, maintain pressure when demand fluctuates offer compact design and provide fuel efficiency. Reviewing the following 10 tips can help you focus on the best choice.

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If an existing boiler is not able to adequately keep up with your process, it may be time to replace it in favor of a system with modern burners and controls. Boiler efficiency should be an important part of a purchase evaluation because the annual cost of fuel easily can be two to three times the installed cost of the equipment. Here are 10 factors to evaluate when considering a boiler replacement.

1. Determine the Steam Operating Profile

When you use steam is as important as how much you use. Chances are that the operating loads have changed substantially since the boiler was installed. If

there has been a significant decrease in load, your boiler may be running at an inefficient low firing rate. Replacing it with a smaller unit – or multiple smaller units – may result in fuel cost savings.

By contrast, it may be that the plant load has increased to the point where the current boiler is running at high loads and experiencing higher maintenance costs. In this case, consider adding a newer, more efficient unit and keep the current, undersized unit as a backup. Invest in monitoring equipment because it will pay for itself many times over.

2. Analyze Present and Future Needs

Repairing or retrofitting your current boiler may be the lowest cost solution in the near term, but it may carry a premium if the future use changes substantially. Sizing of the feedwater treatment



Deciding whether to repair or replace a boiler is not an easy choice. Chances are that the operating loads have changed substantially since the boiler was initially installed. If there has been a significant decrease in load, your boiler may now be running at a very inefficient low firing rate. Replacing it with a smaller unit or multiple smaller units might result in a substantial savings in fuel costs.



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PLC controls provide increased reliability.

7. Determine Whether a Change in Plant Operating Profile or an Economizer is Justified

Look at the operating profile and adjust as needed to keep the boiler operating

at its peak efficiency. If you can find a use for the heat energy, consider adding a stack economizer, which can quickly pay for itself, and save dollars throughout the life of the unit, by allowing you to reuse and recycle process heat.

8. Analyze Backup Costs

Multiple units typically will cost more for the initial installation, but they will quickly pay for themselves in improved efficiency. Production downtime can be expensive so seriously consider backup when deciding on the final system design.

9. Consider Maintenance and Service Support

When selecting a new equipment vendor or just a repair company, review their ability to provide continued and timely support. Dealing directly with the equipment manufacturer for service and support can provide technical support that might not be available from an equipment representative.

10. Remember the Intangibles

These are items that sometimes are difficult to put an actual dollar figure on during a bid comparison, but they can end up costly plenty. Factory skid mounting of equipment, for example, is an item that can be included in the supplier contract, which results in not only savings in installation but also can save engineering hours on the purchaser's side. Availability of spare parts, warranties, performance guarantees, etc., are all things that should be reviewed with prospective suppliers. Always remember you are buying a boiler to use, not just to look at. ❄

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