How Do We Know When It Is A Good Time To Replace Our Irrigation System?

Today's computerized irrigation systems are expensive. However they greatly enhance the management of water, energy, and labor resources, making them good investments.

What is the one thing on a golf course that costs an exorbitant amount of money, most golfers never see, and most modern golf courses can't survive without? An irrigation system. The efficient application of water is playing an increasingly important role as golf courses are focused more than ever on conserving water resources and protecting water quality. In the western U.S., water shortages and the rising cost of water has put more emphasis than ever on irrigation system efficiency. In the eastern U.S. and other parts of the country with plentiful rainfall, an efficient irrigation system helps golf facilities comply with strict water-use regulations and contributes to better course conditioning. Like all mechanical systems, sprinklers, pipes, fittings, controllers and other components experience wear and tear and will need to be replaced at some point. However, when budgets are tight and replacement costs are on the rise, the question becomes "When is it time to replace the irrigation system?"

In general, as irrigation systems age beyond 25 years they tend to experience more frequent breakdowns, components become obsolete and finding replacement parts may be more difficult. However, just because parts of an irrigation system are old in no way implies they are past their usefulness; age is just a relatively easy way to anticipate general fatigue and wear on irrigation systems. The American Society of Golf Course Architects published guidelines regarding the expected life span of various irrigation system components (Fig. 1). The

guidelines are a general estimate of how long each item should last under normal circumstances. Areas of the country with a 12-month irrigation season can expect accelerated wear compared to golf courses in seasonal climates where irrigation systems are only used for a few months. Although golf courses in colder climates may only use an irrigation system for six to eight months, freeze/thaw cycles and winterization processes can weaken pipes and fittings, thus reducing the expected life span of those components.

So how does all this impact your game? Most obvious is the health of the turfgrass on which the game is played. Properly designed and operated irrigation systems promote healthy turfgrass and greatly reduce isolated wet and dry spots. Then there is the impact on your pocketbook. New irrigation systems are expensive. But a system that is overdue replacement is also. Constant repairs are costly and detract from the care of the course. Older systems are not near as energy efficient which also adds up. And, if your course is located in a part of the country where water is very expensive, an old system can literally put you out of business.

Figure 1: Expected Life Cycle of Irrigation System Components*

Item	Years
Irrigation System	10 - 30 years
Irrigation Control System	10 - 15 years
PVC Pipe (under pressure)	10 - 30 years
Pump Station	15 - 20 years

* Adapted from *Golf Course Items Expected Life Cycle.* American Society of Golf Architects.

To learn more about the importance of the irrigation system to golf course management please visit the USGA's Water Resource Center.