

If there is one question about irrigation that always seems to arise it's – should I upgrade? Well, as is often the way, this one question raises many others. When is the right time? Should I extend the system? Which parts could I retain? Do I need a PC based controller? What are the water supply implications? Who do I choose to offer advice? Graeme Francis provides the answers ...

IRRIGATION SYSTEMS



The first thing to remember is that every single system is different, irrigation has evolved as design and installation techniques, materials and specialised products have developed. You need to take a long hard view at all aspects of your existing system, its operation, its maintenance and whether it's still a viable and cost effective turf management tool.

For some greenkeepers the answer will be no, the system is old, unreliable, wastes water and takes up too much time and money in either repairs or in the need to operate it manually. Of course this is not always the case, but it could be that this scenario strikes a chord with you. If it does, then now is the time to think about replacement or upgrading, not

in the spring of 2002 with the growing season fast approaching, nor after the system has failed and the course is suffering because the essential water you need as part of your management regime is not available. Far too often it's a case of "closing the door after the horse has bolted".

Golf has become a far more competitive business. Golfers expect ever-higher standards of course presentation and quality and they have far more choice as to where to play. The course is what attracts golfers and as such it is the vital key in sustaining revenue and generating margin. Today, the decision to upgrade the irrigation system or extend it to other areas of the course, particularly fairways may be a com-

mmercial one. This brings the need for thorough evaluation of what you have now, what you want to achieve and how you go about meeting those objectives.

The selection of the right system for your course is a complex exercise, too often the vast range of options result in a decision being made on one criteria – price. If you are 100% certain that the lowest priced proposal is the best option, provides everything you need today and as importantly, everything you want in the long term, then go with that company, but if not, don't allow price to dominate your choice. Heard it all before? Well, unfortunately this point is just as relevant today as it has ever been. Too many orders are placed with the low-

IRRIGATION SYSTEMS

Upgrade, replace or leave alone?

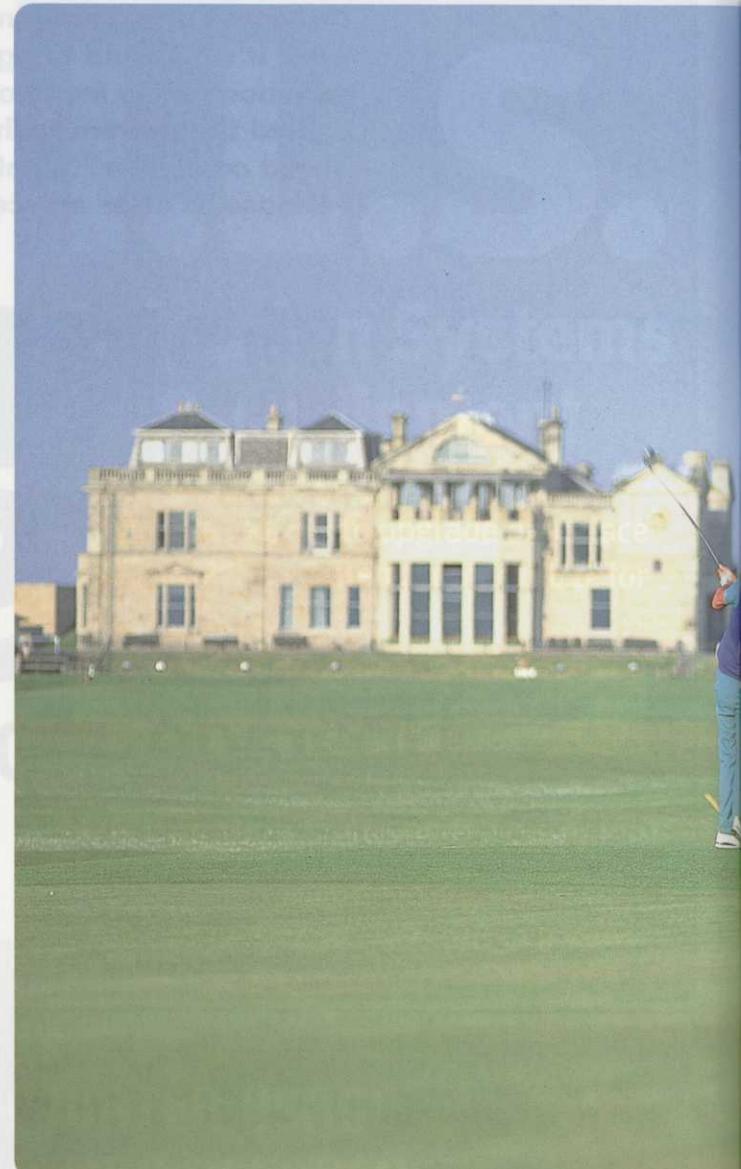
est bidder because those making the decisions are not given, or don't take, the opportunity to make the full technical and commercial evaluation that the intricacies of golf irrigation demand.

There are a number of ways in which you can set about the process of updating the system.

- Call upon the services of an irrigation consultant, there are several very well respected irrigation consultants in the UK and they offer a wide range of services including design, water sourcing, tender and quotation evaluation and site supervision.

- Go to individual irrigation contractors and ask them to prepare design and install proposals and then make a decision based upon their proposals and presentations. Make sure they provide all the technical information that you will need to compare the different designs. Details of such information can be found on the British Turf and Landscape Irrigation Association website at www.btlia.org.uk.

There are many good contractors and you should select a small number with whom you can establish system criteria and whose proposals you can comprehensively assess. I have heard of as many as twelve companies being asked to submit proposals for a single project. Quite frankly that is doing nothing except making the selection process unworkable.



- Talk to the specialist product supply companies who can provide valuable information on all aspects of their particular ranges and their support structures. The number of such suppliers is limited, but you may wish to choose the supplier and then ask contractors to bid using that company's products.

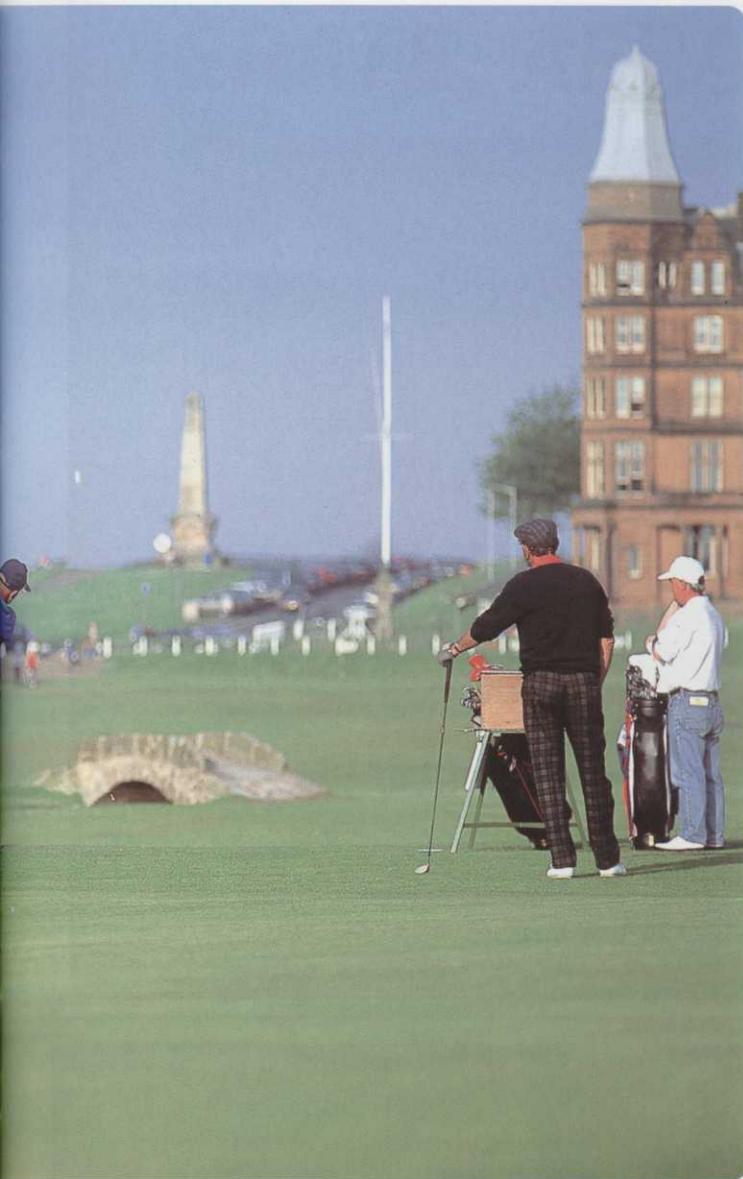
- Seek further education on the subject of irrigation to a level where you can undertake the design and proposal evaluation yourself. This can be achieved through the turf colleges or via the specialist BTLIA irrigation courses held regularly. These provide a very good grounding in sportsturf irrigation. Irrigation education is becoming well defined. It is becoming integrated into the turf education mainstream where its importance is being recognised.

Once again these options raised more questions. In each case you also need to make a reasoned decision as to which method and which companies you use. Investigate their backgrounds, recent projects and other aspects such as the level of longer term support the manufacturers and contractors offer. Use companies who are members of the BTLIA, as they are committed to providing proposals and installation services in accordance with the Associations

standards and membership requirements.

Can you keep parts of the existing system? Very careful consideration must be made when looking at retention of existing components. Partial upgrades require complete confidence that any parts retained, which may include pumps, pipework and control systems will provide durability and are properly suited to the new and often greater system demands. I have often seen new pumping systems and sprinklers fitted to existing pipework in an attempt to save money, only to hear that very shortly afterwards the pipework has not been able to withstand the increased pressures and flows modern systems create. The result? An expensive pipework replacement undertaking that will almost certainly erode all the previous savings and more-than-likely actually cost more than if the work had been done as part of the initial project. Hydraulic principles dictate that adding more sprinklers to an existing system without increasing pump and pipe capacity will result in extending the time needed to irrigate all areas. The normal maximum time is 10 hours, but some course managers end up with systems that have to run during the day and through the night just to get the water applied.





This makes no sense and can seriously impede other maintenance operations and play.

There is no doubt that the most topical aspect of golf course irrigation today and I believe for some time to come, is the availability of water. There are very significant potential changes coming as part of the Water Bill, currently in draft form and at present relevant to England and Wales. This Bill will almost certainly bring fundamental changes to the water abstraction licensing process for those courses that obtain water from lakes, watercourse and boreholes. In the future there will be an increase in the monitoring of water use and course managers could need to prepare water budgets, forecast water use for the next year or even longer and also may need to produce detailed records of actual water use against forecast and show how those figures relate to licensed quantities. It is not beyond the realms of possibility that longer term regulation could take place and the monitoring process could go further, to the point where clubs would have to demonstrate that they have put in place systems and procedures that optimise water use and eliminate waste particularly from unreliable system components and inaccurate application. System effi-

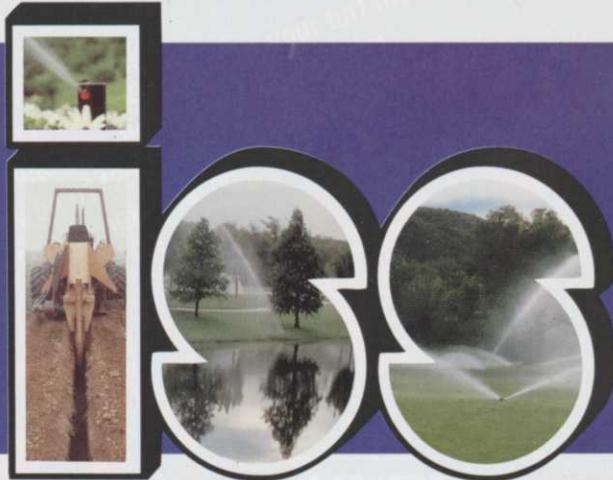
cency through good design, installation, maintenance and operation needs to be a fundamental objective in any golf course irrigation system provision regardless of the scope of pending or future legislation. It is very important for everyone associated with golf course management to understand that the water issues are becoming crucial. Good irrigation practice must be given the attention it needs and the willingness to make a sound financial investment has to prevail to ensure that systems can stand up to potentially closer scrutiny and the ever increasing demands of course management and ever more discerning players. Even those many courses using potable water supplies to feed irrigation systems have to make sure that such operational efficiency is created to allow optimum water use from this more expensive source.

Control systems offering precise and reliable operation with comprehensive water use monitoring and recording are increasing being chosen for golf course irrigation. Water use records can of course be kept by noting water meter readings and equating those with agronomic factors particularly evapotranspiration, but controllers which can produce this information quickly and auto-

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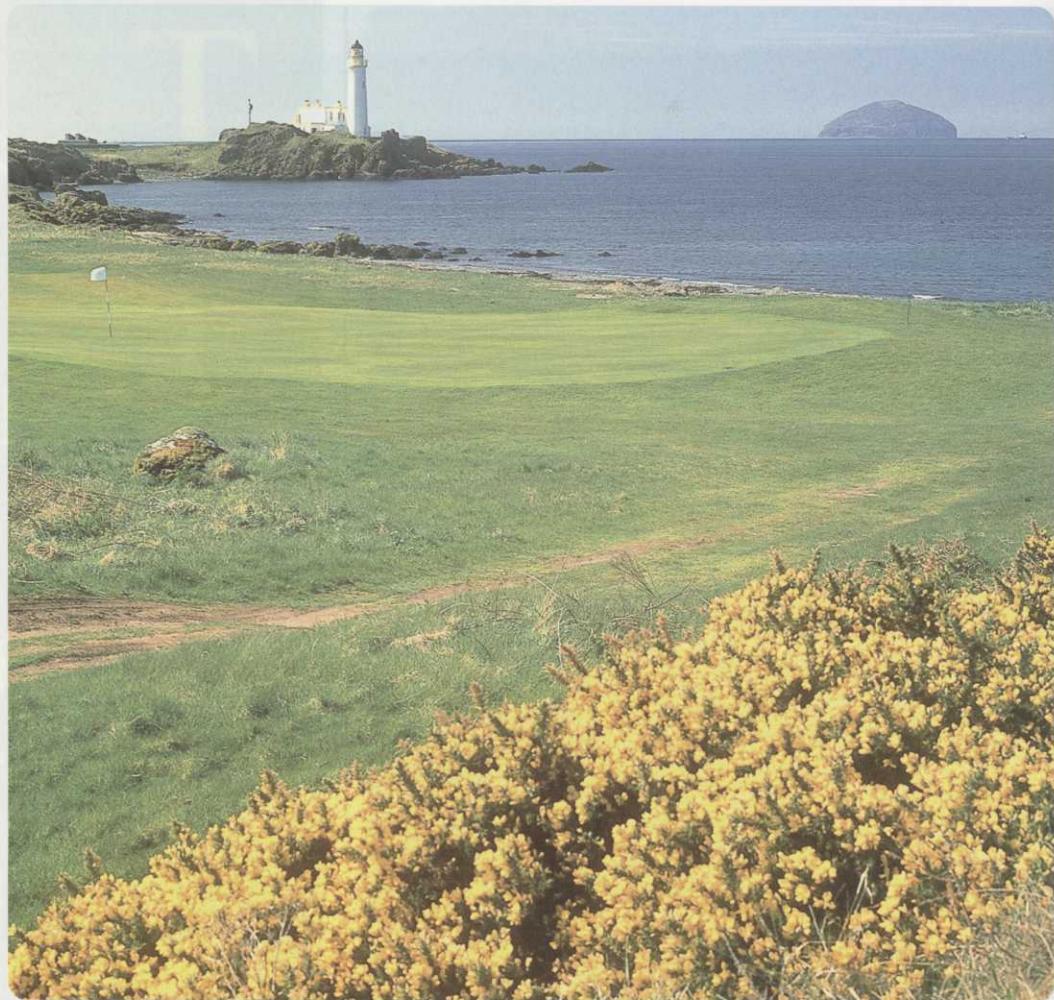
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IRRIGATION SYSTEMS

Upgrade, replace or leave alone?



matically clearly make the exercise quicker and simpler. Some of these automated functions can be found in certain "box-on-the-wall" controllers, but many course managers choose a PC based central controller with specialist software that meets the requirements of modern irrigation operations. The PC can then be used for other tasks using spreadsheet and word processing packages creating a more general management tool.

When choosing a PC system, make sure it does what you need as simply as possible. Good support from the contractor, distributor and manufacturer must be in place and provide a service offering such things as fast component replacement, upgrade programmes, telephone helpdesks and all the other essential support infrastructures that you should expect. Hardware and software can be superseded relatively frequently, but choosing the right provider should permit upgrade options in the

future. In many cases the control options and precision of PC based control systems offset initial capital cost when the savings in water and the course manager's time are taken into consideration. It is not unreasonable to say that overall, water use can be reduced using better control, even when more of the course is being irrigated. More and more clubs are extending irrigation to their fairways; this is due to the higher maintenance requirement that heavier play brings and also to allow the best presentation of the course for the purpose of attracting visiting golfers and societies. With such fairway irrigation, the need for efficiency increases dramatically as the potential cost of water wastage becomes much larger. In addition, the use of licensed water sources such as boreholes and in-ground reservoirs is the only realistic way to get the volume of water required. Despite the need for more water, fairway irrigation will become

more important and consequently widespread and the current trend of established clubs having fairway systems installed will continue. With the larger systems, the capital expenditure involved means that careful selection is of the utmost importance and must be undertaken in an informed manner.

The pressures on golf courses make optimisation of all management tools vital for sustained course and club development. Irrigation is just one of those tools, but it is an essential one and extension of systems to larger areas of the course will be important in future course management. Its provision is specialised and requires extensive expertise. Choose carefully, invest wisely and make sure your system meets your requirements and works for you and not against you.

Graeme Francis is the Marketing Manager of The Hydroscape Group, Toro, Irrigation Distributors for UK and Ireland

NEW & Training resource video⁵
Golf Management Association
Irrigation
This training video looks at the Why, How, What and Where of Irrigation

Although it may not have been apparent in recent months, water is a precious resource and extraction is becoming increasingly difficult and expensive. At the same time irrigation is a vital tool to the greenkeeper and the 28 minute video looks at using it to its best advantage with the Why, What, How and Where of irrigation. The video features interviews with recognised experts in their field, graphics and film showing why irrigation is needed, when to

apply and what equipment to use. "This video is not only of benefit for training greenkeepers in the art of good water management and irrigation, it would also be very useful for communicating to the wider golfing community," said BIGGA's Education and Training Manager, Ken Richardson. The other four video's in BIGGA's portfolio cover, spraying; golf course preparation; golf green construction and golf course ecology. The production of this video was only possible through the generous support

of the Association's Golden and Silver Key Supporters who donate to BIGGA's Education and Development Fund.

Irrigation is produced by Goodwood Videos, who also produced the Golf Course Ecology video, and is priced at £15 for BIGGA members and £25 for non-members.

Contact the BIGGA Education Department for further details on 01347 833800 or via sami@bigga.co.uk