IRVINE RANCH WATER DISTRICT POLICY POSITION
WEATHER-BASED ("ET") IRRIGATION CONTROLLER TECHNOLOGY IMPLEMENTATION MODEL

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Issue Summary:

Studies performed in IRWD's service area show that real time weather-based irrigation controller technology can improve the efficiency of irrigation water use thereby reducing both water consumption and associated runoff. Based on these studies, and consistent with the approach for other water conservation programs, water districts in California have developed programs that provide financial incentives to encourage the adoption of this technology by the public. Although this approach is well-intended in its goal of conserving valuable public resources, it fails to recognize the "immaturity" of the industry and market, and the need for a standardized communication protocol.

Weather-based irrigation controllers are currently available from only a limited group of mostly small companies, many with several thousand (or less) devices in operation. Companies with real time products communicate ET information through proprietary communication and control systems, and typically charge communication fees ranging from $20 to $50 per month per controller for commercial landscape applications and $4 to $5 per month for residences. Although commercial customers may be able to justify these fees based on labor and potential water cost savings, IRWD studies show that residential customers are generally unwilling to pay monthly fees for this service. Furthermore, particularly for residential applications, but also for commercial landscapes to varying degrees, most of these controller systems have not been thoroughly tested and evaluated for effectiveness or long-term reliability. Encouraging the wide application of new and unreliable products could slow acceptance of the technology as was observed during the early stages of ultra low flush toilet programs.

As noted above, under the current market structure weather data is transmitted by each manufacturer using a *proprietary* communication system. This structure is inherently inefficient because it results in the "multiplication" of weather data transmissions into single weather "zones." More importantly, customer's irrigation systems are dependent on the proprietary systems and vulnerable to both communication sustainability issues and non-competitive pricing structures. The potential for communication sustainability problems is particularly worrisome because most of the current weather-based controller manufacturers are small companies with limited resources to withstand the maturation of this market.

In light of the above factors and recognizing the resource and environmental benefits associated with weather-based controller technology, IRWD believes it is in the public interest for water purveyors to work aggressively to accelerate the implementation of this technology. Although typical financial incentives have a role, this can be done more effectively through a "public-private" partnership whereby public agencies develop and operate a standard communication protocol and system to provide for the regular dissemination of weather information at no (direct) cost to the customer, and private companies manufacture controllers to accept this protocol. In parallel with this effort, the State should consider legislation requiring that all

controllers sold after some point in time are capable of receiving and processing data in the standardized format.

Policy Principles

- Weather-based irrigation control technology shows significant promise to reduce both irrigation water usage and associated urban runoff

- Public agencies are stewards of valuable public water resources and have an obligation to promote the adoption of technology that will result in the wise use of these resources.

- The weather-based irrigation controller industry is immature, inefficient, and not moving forward on a standardized technology protocol. These market attributes and the potential for substandard products could inhibit the adoption of the technology by the public.

- Because of market conditions and the immaturity of the weather based controller industry, traditional approaches provided by public agencies (i.e., financial incentives) are, by themselves, inadequate to optimize the adoption and effectiveness of this technology.

- To ensure more efficient development of the market and public acceptance, public agencies should take an aggressive role in developing, implementing, and maintaining a *standardized system and protocol* for the regular dissemination of weather information across the state.

- Coincident with the development of a standardized system and protocol, the state should consider legislation mandating that all controllers sold in the state after a specified date must be capable of receiving and processing data in the standardized format. The current water supply situation in the state may provide an appropriate backdrop for this legislation to be pursued.