

Wisconsin Public Service Corp

Irrigation Program

Wisconsin Public Service Corporation's Irrigation Program is a pump testing and incentive program for agricultural customers who install reduced pressure irrigation systems. These systems typically operate at 50-65 pounds per square inch (psi) with 60 to 75 horsepower motors to deliver 1,000 gallons per minute. Conventional systems operate at about 100 psi with 100 horsepower motors to deliver the same volume of water.

In order to promote the reduced pressure irrigation systems, WPSC first needed to overcome farmers' misconceptions about reduced pressure systems. WPSC recognized from the onset of the program the value of working with trade allies and the University of Wisconsin Cooperative Extension Service to introduce these energy-efficient technologies. It is this partnership that has been responsible for the changing attitudes toward reduced pressure irrigation systems in Wisconsin and that has made this program a success to date.

To implement the program, WPSC relies heavily on trade allies. Equipment dealers in the WPSC service territory actively promote the program with their high levels of customer contact and credibility. Utility rebates of up to \$300 generally cover 100% of the cost of a required pump test, performed by the equipment vendors. Then WPSC provides incentives for irrigation system components, including new motors, based on estimated demand reductions. In turn the rebates available through the Irrigation Program boost vendors' sales by encouraging customers to make purchases of equipment that might otherwise be unaffordable.

A typical irrigation system retrofit entails the purchase and installation of new sprinkler nozzles, a new downsized motor for the pump, and a rebuilt pump. Thirty-nine reduced pressure irrigation systems were installed on 31 different wells between 1990 and 1992. In 1992, the Irrigation Program resulted in energy savings of 411 MWh. WPSC estimates that about one-half of the 385 wells eligible to participate in the program have terrain and well volumes suitable for reduced pressure irrigation systems. Of these, another half have barriers to implementation such as inappropriate crop type(s), or stringent buyers' rules regarding crop irrigation. Thus, there are approximately 96 wells being targeted by the Irrigation Program, and about one-third have already been reached.

A typical retrofit costs \$8,000 to \$10,000, and WPSC rebates can cover anywhere from 20% to 100% of the cost, depending on the characteristics of the existing system and the retrofit. In 1992, total installation costs (including pump tests) for the 29 systems installed were \$504,000. WPSC covered \$173,500 of those costs, and customer contributions totaled \$330,500.

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WISCONSIN PUBLIC SERVICE CORP Irrigation Program

Sector: Agricultural

Measures: Reduced pressure irrigation systems; high-efficiency pump motors and pumps

Mechanism: Cash incentives for pump tests and system installation

History: Pilot in 1989, 39 systems installed through 1992.

1992 Program Data

Energy savings: 411 MWh

Lifecycle energy savings: 6,165 MWh

Capacity savings: 0.700 MW

Cost: \$182,800

Cumulative Data (1990 - 1992)

Energy savings: 784.5 MWh

Lifecycle energy savings: 8,907 MWh

Capacity Savings: 1.037 MW

Cost: \$263,800

Participation rate: 32%

The Results Center produced 126 profiles of the most successful energy efficiency and renewable energy programs in the United States and around the world in the early and mid 1990s. With the support of the John D. and Catherine T. MacArthur Foundation, Ted Flanigan directed a research team at Colorado-based IRT Environment to produce and distribute these exceptional examples. Thanks to strong demand for solid case studies, The Results Center was supported by dozens of major utilities and energy associations worldwide. Today, The Results Center is managed again by Ted Flanigan, now at California-based EcoMotion Incorporated, a firm focused on strategic consulting, information dissemination, program design, outreach services, and aggressive implementation. To nominate highly successful programs, contact: The Results Center, c/o EcoMotion, 15375 Barranca Parkway, F-104, Irvine, CA 92618, (949) 450-7155, or TFlanigan@EcoMotion.us