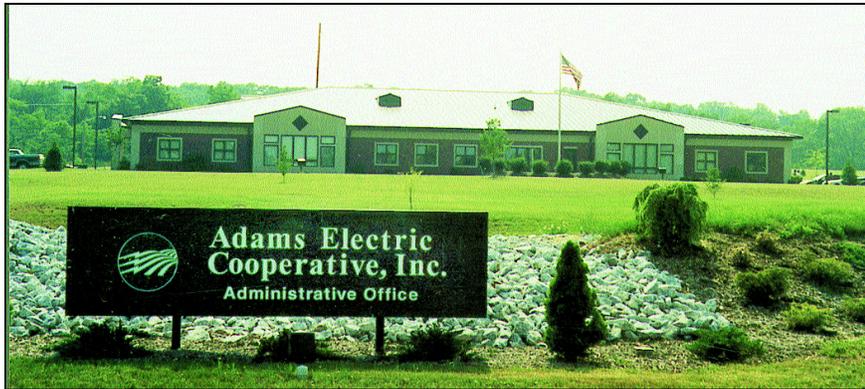


TRIANGULAR WAVE

Case Study No.101

PRACTICING WHAT THEY PREACH: Adams Electric Utilizes Triangular Wave System in State of the Art Facility



Adams Electric Cooperative, Inc. Headquarters Building

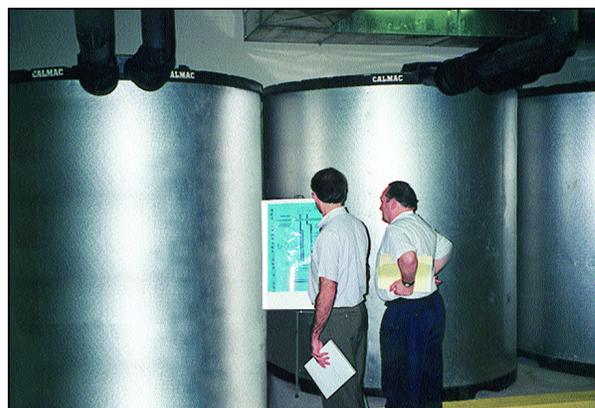
Adams Electric Cooperative, located in Gettysburg, PA., has been providing electric service to Southern Pennsylvania residents since 1940. The company has had a corporate philosophy of both controlling electric rates and providing reliable service for its many customers.

Keeping rates down involves many management activities including the usual financial and contractual processes, but also involves keeping the firm's own costs in check. In 1996 Adams Electric implemented one such cost saving system at their new 16,500 square foot facility in Gettysburg to cool their new facility in a more efficient manner. Adams installed an ice storage system to cool the building.

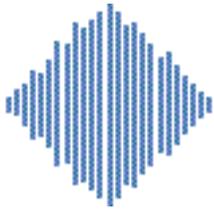
The system produces ice at night, when electric rates are lower, and stores it in three 1600 gallon tanks. The tanks then cool the building with the ice during the day. Adams has demonstrated conservation through example, as they are cooling the building with "Off Peak" electric costs.

Water treatment of the facilities equipment, piping and fixtures was Adam's next task. Scott Wehler, Manager of Engineering at Adams was faced with installing a water softener system or utilizing an alternative to standard water treatment - The Triangular Wave Technology alternative.

"After evaluation of the two options, we decided to install the Triangular Wave System. The system seemed sound, and it was 'Electrically Sourced' which we felt was a better approach with less **negative environmental impact**. The use of a softener system required the on-going addition of salt which not only added labor cost and time, **but the salts ultimately had a negative environmental impact as they had to be dealt with at the water treatment facilities**. Also, the Triangular Wave System was actually less costly from a capital investment standpoint," said Wehler.



Two 1,600-gal. Ice Storage Tanks



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The Triangular Wave System was installed during the final construction phase of the facility in early 1996. The system was placed on the main water supply into the facility. The Triangular Wave System treats the incoming water to control deposits of scale and bio-film in the ice tanks and the water lines throughout the facility.

The water hardness in the area is quite high, and Adams staff certainly expected some build-ups, with or without a softener. The scale and bio-film build-ups occur in the water lines, the 82 gallon water heater, and numerous plumbing fixtures. The entire system would have required cleaning and on-going maintenance.



Triangular Wave System (coil hidden by insulation)

“We have not seen any calcium or other build-ups on any pipes, equipment or plumbing fixtures in the facility since installation over two years ago. We have not had to do any maintenance on any of our fixtures, pipes or equipment, related to scale build-ups, and the Triangular Wave System has not required any on-going maintenance on our part as well. In short, ***we have had no build-up problems, and we feel that it is a direct result of the effectiveness of the Triangular Wave System. It has performed very well for us***,” added Wehler.

