



AMERICAN WATER SOLUTIONS LLC

Introducing the ISOS™

Intelligent Storage and Optimization System

Mitigate Wastewater Overflow Frequency and Duration!

Save Energy!



The AWS ISOS™ incorporates high quality microprocessor based components from ACT Inc. for reliability and durability. Our systems provide a touchpad and display for easy operator interface.

Minimize Overflows!

The patent pending AWS ISOS™ Intelligent Storage and Optimization System has been developed for the wastewater industry to cost effectively utilize available collection system storage to mitigate occurrence of unnecessary collection system overflows. Additionally, the ISOS™ can provide optimum energy usage and pumping efficiency for pump stations connected with a common manifold.

AWS and AWSE utilize state of the art sewer modeling software and techniques to develop critical operating thresholds that take advantage of available system storage. With local pump station control and the robust ACT communications data hopper, ISOS™ can communicate with most any existing SCADA system in virtually any communication format to immediately signal pump station status or trouble. This affords crucial improvements in response time for both repairs and bypass pumping for maintenance crews. Under final development and pilot testing now, the ISOS™ is scheduled for release in spring 2008.

Conventional Systems

Typical PS's have independent wet well level control without consideration of upstream PS flow patterns, rates or downstream PS impacts.

Independent manifold pump control doesn't consider changes in manifold pressures which can drastically affect pump efficiencies and runtimes.

Typical PS's do not communicate with other PS's in collection system to manage overall collection system storage volumes relative to flow.

Typical indication of high alarm is via PS audio and/or visual alarm after reaching predetermined wet well level. No communication w/ SCADA.

AWS ISOS™

Master control for downstream PS communicates its status to other PS's to intelligently alter upstream PS control for maximum pump efficiency and use of system storage.

Synchronized pumping between PS's on common manifolds allows optimum energy usage and efficiency, reducing pump run times and mechanical wear.

Communication between PS's allows optimum changes in local control to best utilize available system storage thereby minimizing occurrence of unnecessary overflows.

Downstream PS problems can be detected and communicated immediately to upstream PS's and available SCADA to alter upstream local PS control buying crucial time for pump repair and bypass pumping.

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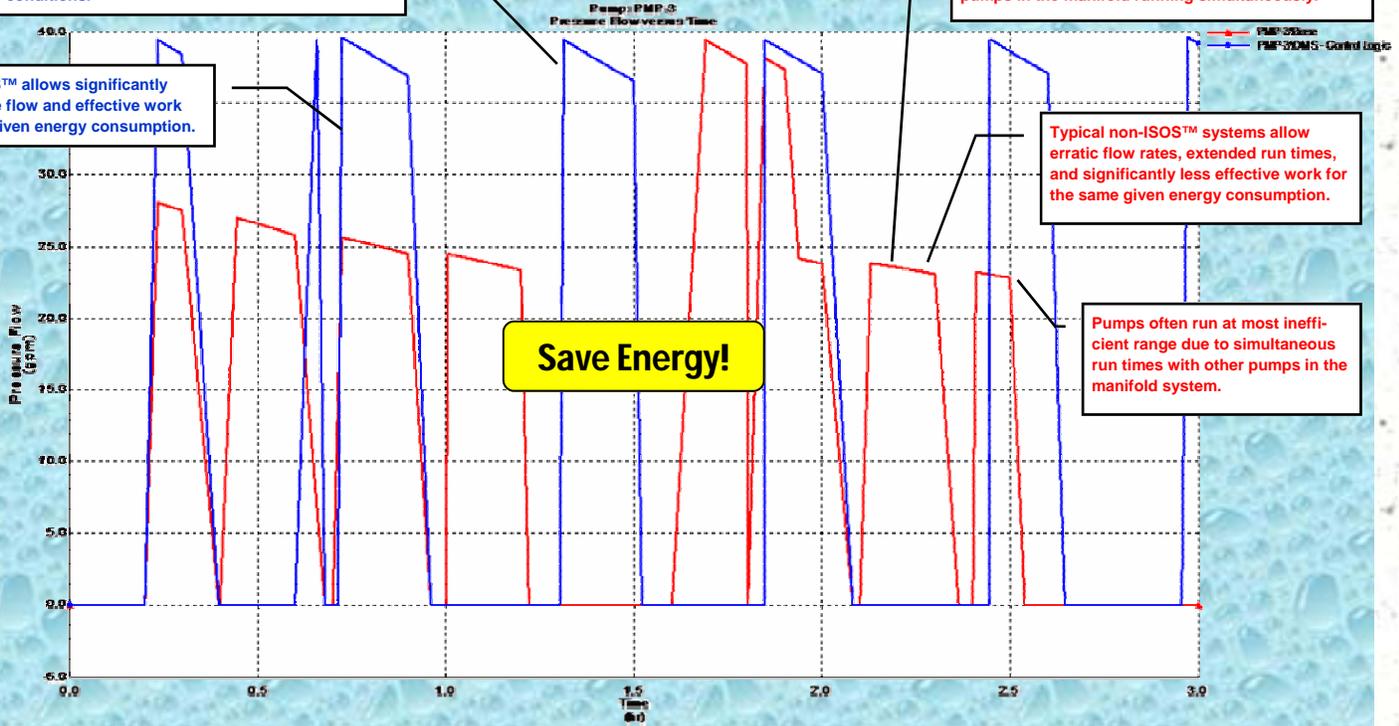
Intelligent Storage and Optimization System

Once pumps synchronize with the ISOS™ system, they function in a predictable, efficient pattern under normal flow conditions.

Typical Manifold System

Typical non-ISOS™ controlled pumps lose significant efficiency and pumping capacity with other pumps in the manifold running simultaneously.

ISOS™ allows significantly more flow and effective work for given energy consumption.

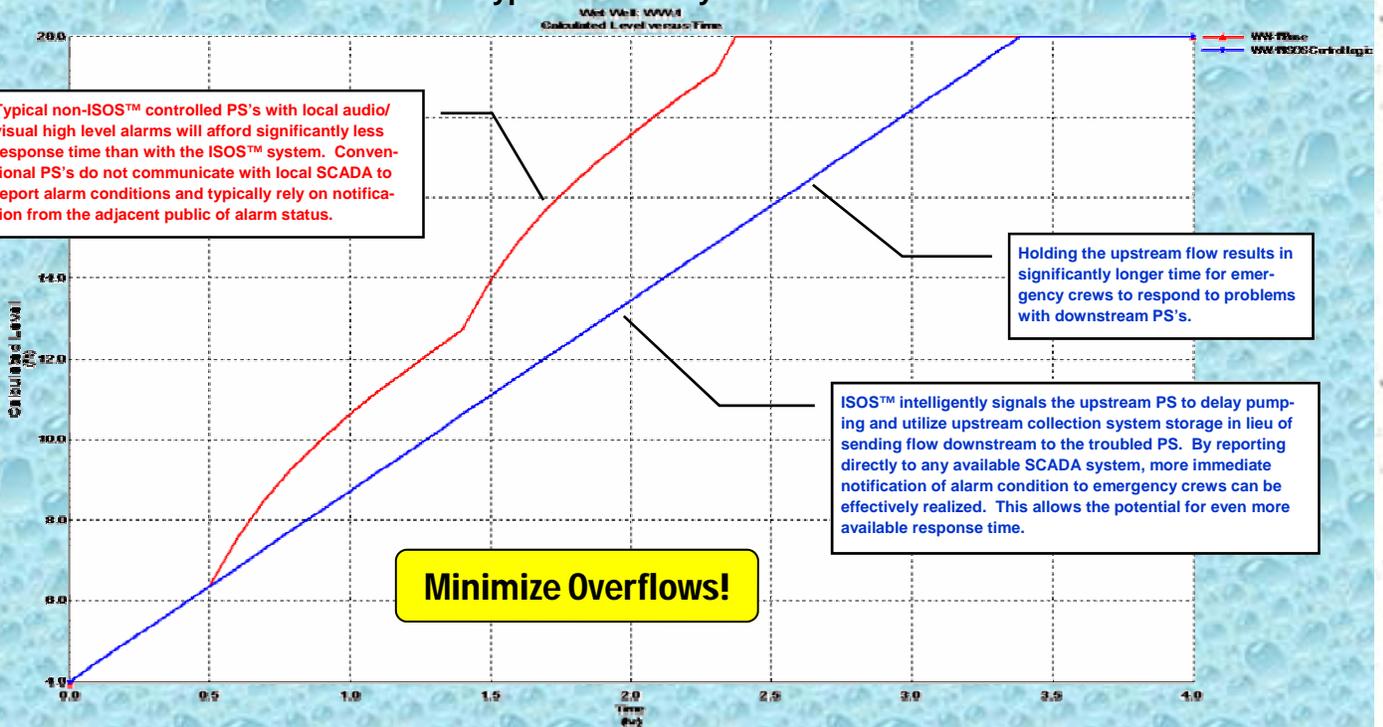


Typical non-ISOS™ systems allow erratic flow rates, extended run times, and significantly less effective work for the same given energy consumption.

Pumps often run at most inefficient range due to simultaneous run times with other pumps in the manifold system.

Typical Series System

Typical non-ISOS™ controlled PS's with local audio/visual high level alarms will afford significantly less response time than with the ISOS™ system. Conventional PS's do not communicate with local SCADA to report alarm conditions and typically rely on notification from the adjacent public of alarm status.



Holding the upstream flow results in significantly longer time for emergency crews to respond to problems with downstream PS's.

ISOS™ intelligently signals the upstream PS to delay pumping and utilize upstream collection system storage in lieu of sending flow downstream to the troubled PS. By reporting directly to any available SCADA system, more immediate notification of alarm condition to emergency crews can be effectively realized. This allows the potential for even more available response time.