

# PROJECT NARRATIVE



## System Description

**Application:** Wastewater Treatment

**Initiation:** October 1983

**Completion:**

Energy Recovery System – 6/87  
Dewatering Centrifuge Expansion  
Phase 1 – 12/94  
HERS Expansion – 12/96  
Dewatering Centrifuge Expansion  
Phase 2 – 12/96

**Consultant or A/E:** Montgomery  
Watson  
Pasadena, California

**Major WDPF Components (for  
original HERS project):**

- 65 Distributed Processing Units
- 6 Standard Engineer's Stations
- 11 Standard Operator's Stations
- 1 Historical Storage & Retrieval
- 6 Loggers
- 1 DEC MicroVAX with Plant Information Package
- Redundant Coaxial Cable Data Highway.

**Distributed Control System I/O  
Point Count:**

- Analog Inputs: 1015
- Analog Outputs: 365
- Digital Inputs: 4900
- Digital Outputs: 2320



Integrating the next century with a DCS by Emerson  
Process Management

## THE CITY OF LOS ANGELES – HYPERION *Located in Los Angeles, California*

The Hyperion treatment plant is the largest wastewater treatment plant in Los Angeles, California. The current primary treatment design capacity is 420 MGD and the secondary treatment design capacity, which is currently undergoing expansion and will be full secondary treatment by 1998, is 150 MGD. Self-generated electricity — more than 25,000 kilowatts and 7,000 pounds of steam per hour — results from the Hyperion Energy Recovery System (HERS), which was the original contract with Emerson Process Management.

As the prime contractor, Emerson oversaw the procurement, the proper installation of all DCS and instrumentation, and the overall system performance for this DCS and SCADA project.

## System Architecture

The singular WDPF<sup>®</sup> system installed at the Hyperion facility controls over 7,000 process measurements and commands (over 20,000 tags.) In addition, there are over 3,200 process instrumentation devices to monitor and control during normal operation.

Operations use 14 Operator and Engineer WEstations in the main control room to monitor plant processes. A centralized Historian provides system accountability by generating more than 300 pages of regulatory reports and process summaries.

## Plant Description

The Hyperion Wastewater Treatment Plant, located in Playa del Rey, is Los Angeles's largest treatment facility. The plant currently has a primary treatment design capacity of 420 MGD and a secondary treatment capacity of 150 MGD. The plant is currently undergoing expansion for full secondary treatment by 1998. An important portion of the plant is the energy recovery system that provides self-generated electricity.

The original WDPF contract was for the Hyperion Energy Recovery System (HERS). The HERS generates over 25,000

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## Benefits of the WDPF System

- Fully integrated DCS and SCADA architecture invokes Reactive Control capabilities
- Online monitoring and automatic activation of remote equipment saves operators time by eliminating manual collection and manipulation of process data
- Advanced technology improves administration and regulator compliance functions, while improving overall process improvement.
- Open system functionality positions the City of Los Angeles with a path for easy and cost-effective upgrades

kilowatts of electricity and 7,000 pounds per hour of steam continually. Since that time, numerous WDPF projects have been initiated at Hyperion. Included amongst these projects are two phases for the dewatering centrifuge, expansion at the digester and WAS thickening facilities, and an upgrade of the HERS. The upgrade project has been extremely successful by updating all DPUs with 486 processors and upgrading the workstations to Sun-based WEstations.