SSE KZN installed Adroit SCADA to assist WSA compliance for the City of uMhlathuze

uMhlathuze Municipality supplies water and sanitation services to the towns of Empangeni, Richards Bay, eSikhaleni, Ngwelezane, eNseleni, Vulindlela and Felixton as well as the rural areas of Dube, Mkhwanazi, Khoza and Madlebe. Systems Integrator, SSE KZN, installed one of South Africa's most advanced telemetry solutions and an Adroit Supervisory Control and Data Acquisition (SCADA) system to enable the uMhlathuze Council to profile the quality of all water resources. The project was started in January 2007 and will continue until 2011 through a Service Level Agreement (SLA) that entitles the client to repay, risk free, all capital layout expenses for approximately 135 sites over this period while the system is ensured and maintained by SSE KZN.

Utilization of the Adroit SCADA trend analysis will enable the Council to predict future changes in the quality of the water resources. Trending is performed for levels, pH, flows, pressures and pump starts with all data being logged for 6 to 12 month periods.

"The business reason's for installing the SCADA system where to improve efficiency, determine water losses, decrease downtime, and reduce maintenance costs. "Adroit was chosen based on its functionality, viability, user friendliness and local support," says Carlo Shields, regional director for SSE in KwaZulu Natal.

Specifically, the SSE telemetry and Adroit SCADA minimizes the resources required for bulk meter reading, proactively alarm waste water overflows, monitor pH levels in waste water to prevent corrosion due to induced chemicals from industry and reduce water losses due to real time reporting of pressures, flows and other water quality variables.

The City of uMhlathuze, situated on the north-east coast of KwaZulu-Natal, South Africa, is a progressive municipality dedicated to achieving a successful balance and synergy between industry, its rich environmental assets and the community. Richards Bay is considered to be the industrial and tourism hub, Empangeni the commercial hub and eSikhaleni the largest suburb.

Effective management of services and resources and the provision of services to all residents of the City, which is 796 square kilometers in extent, are challenges that the Municipality has tackled enthusiastically. Proudly, the Municipality's developments in this regard are on track and, in many instances, ahead of national government's targets. The municipal area has a water pipe infrastructure of 1 696km, reservoir capacities of 240 mega-liters, a total of 614km of sewer pipes and four treatment works which process approximately 100Ml per day.

In accordance with the compliance regulations of the Water Services Act, all Water Services Authorities (WSAs) must complete a Water Services Development Plan (WSDP) for their area of jurisdiction. This WSDP, formulated by the council, form an integral part of the integrated development planning process, whose mandate extends to:

- water quality management
- water loss management
- bulk meter monitoring including the logging of flows and pressures
- water pollution control through the monitoring and control of waste water treatment works
- monitoring and control of water pollution in streams, rivers and boreholes that are influenced by industrial waste
- pump stations and sewer overflows, and
- non-compliances of industry and WSP's with national effluent standards

Process Data for all aspects of the council's water plan is gathered from ultrasonic level transmitters, submersible transducers, water meters, pressure transducers, pH meters, etc. and sent remotely by the SSE telemetry equipment to the Adroit SCADA servers situated at the

uMhlathuze municipal building. Here it is graphically displayed, trended, alarmed, logged and managed.

SSE KZN also installed OPUS Reporting Software to automatically generate daily reports that are e-mailed to all the relevant responsible parties as well as enabling users to log on through the web for access to reports and data.

The uMhlathuze system currently has 65 SSE remote terminal units (RTUs) installed that connect through an SSE Ole for process control (OPC) server with the SCADA through the standard OPC client driver in Adroit.

There are two Adroit 6.0.4 servers of 1500 Scan Points each in use - mostly for monitoring: one for water and one for sewerage, both are located at the Richards Bay Civic Center, CBD.

These servers are running on Windows XP Professional platforms and include 16 view nodes at strategic offices around Richards Bay and Empangeni where standard Adroit mimics are used for the visual graphics and data publication as well as onscreen alarming. The system also SMS critical alarms to the relevant standby personnel.

The uMhlathuze system utilizes the Adroit logging functionality and SSE's advanced remote time-stamped logging feature for redundancy and added security measures.

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