



# Consolution

*"Solutions for a more efficient business"*

## ➤➤ Case Study:

➤➤ Customer:  
DOW Hyperlast

➤➤ Project:  
**EFFLUENT CONTROL AND  
MONITORING**

## Our Challenge:

DOW Hyperlast wished to improve the measured accuracy of surface water discharge and control the pH levels within defined limits. The existing discharge line was underground with insufficient flow rates. The proposal was to install a new discharge line with improved pumping arrangement and monitoring.

It was decided to monitor and control the raw water discharge using a duty standby pump arrangement and report out of limits information.

The project involved a concrete, plinth mounted, effluent plant with 60 meters of 150mm carbon steel discharge line.

## The Solution

Design, Install and Commission a fully stand alone control system with status integration to the plant wide control system.

**The project was completed successfully in late 2007 and brought  
on line early 2008**

**John Peace: Managing Director**

**Design:**

- Electrical design and specification to BS7671 including Block cable DIAGRAMS, Layouts, Schedules, Cable Calcs etc.
- Instrumentation control loop design and specification including loop drawings and loop calibration draft certificates.
- Control Panel design and build to functional requirements for external application including all G/A's, Schematics and parts lists.
- Integration design of control system onto site wide Profibus network and Siemens S7 PLC with supervisory SCADA.

**Panel Build and Installation:**

Stand alone stainless steel control panel with the following functionality:

Duty stand by pump selection.

Auto / Manual level control

Discharge flow measurement via mag-flow meter with local alarms.

pH measurement and alarms.

Integrated pipe trace heating controller for external pipelines.

Control and Alarm handling via Moeller PLC.

Remote I/O collection via Siemens ET200 I/O Station.

Upstream profibus link to Siemens S7 400 PLC and  
integration to plant wide SCADA (Wonderware's Intouch)

Install above control panel, cable containment mains and  
pump feeder cables, BS5308 instrument cables and Profibus  
network cabling.

**Commissioning:**

Electrical testing of all mains cabling and equipment to  
BS7671:2008.

Instrumentation loop commissioning and certification.

System integration commissioning of remote and central  
control systems.

Process and operation commissioning, hand in hand with  
the Client.

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