



## Enabling Unattended Process Monitoring

### Problem

Consultants are often called upon to prepare plans and designs in order that operational processes can be upgraded. They can also be required to debug failing operations. This can involve the gathering of extensive data on current operating conditions so that results can be compared against original design specifications.

Data collection can be achieved by on site inspection and testing, but where transient variants exist it can be a lengthy and costly project to establish the full extent of process variables.

Investment in permanent sensory systems with attached data logging equipment provides a solution, but still requires site attendance and extensive travelling.

Also, without visual monitoring, operations that have periodic client operator inputs may go unrecorded.

As an example of this, e-RPM had provided consultants working on behalf of a waste management company with a GSM enabled data capture and transmission system to monitor surface water in a lagoon.

However, it became apparent that this was insufficient during storm conditions when lagoon inputs could quickly vary in volume and contamination. Sensory equipment would not pick this up for several hours and, where severe storms caused electricity supply to be lost, sensory equipment would no longer be operational.

### Solution

e-RPM proposed that a sensor system be installed using a low voltage battery supply, along with a still camera. The latter could be activated by PIR sensor as well as by direction from e-RPM's web-based Virtual Control Panel.

Visual recording of activities and inputs at the site enabled the consultants to record and demonstrate to their client the causes of each abnormal condition. This included unauthorised truck washing as well as additional storm streams entering the lagoon.

Armed with this evidence it was possible to confidently propose effective remedial measures. The camera system was extended to provide comprehensive visual monitoring of the site.





## **Benefits**

The causes of operational difficulties were established without excessive site attendance, permitting the recording of non-conforming events, which an attending monitoring technician would have been unlikely to witness.

Comprehensive records of the operation and events were logged, permitting a more informed analysis to be undertaken.

Effective designs could be proposed knowing that they had been based on reliable input data.

## **Cost Considerations**

The cost of the GSM monitoring and camera equipment was less than one week's attendance of a monitoring technician. This allowed the project to continue for the entire winter period without exceeding the available funds for evaluating the project.

Client and consultant were able to share the gathered data which was generated without the need for interim report preparation.

