

WaPUG AUTUMN CONFERENCE 1993
WORKSHOP 1
REAL TIME CONTROL

Chairmen	Andrew Baldwin	- Integrated Hydro Systems
	Brian Sharman	- North West Water
	Ian Noble	- Montgomery Watson Ltd

Discussion Topics

Opportunities/location for RTC
Identifying benefits
Modelling capabilities
Control devices/sensors etc.
Implementation
Information/knowledge
The future

Summary of General Notes/Quotes

Operators have a real fear of new technology and the possible implications with the NRA, will real time consents be required? Will RTC systems be regarded as an additional benefit rather than an alternative solution?

Suggest "gradual" move from basic DAP solutions to RTC solutions in order to gain confidence with software and procedures.

Use of in-line storage is best suited for RTC.

RTC solutions is not a new technology. Participants spoke of schemes built 20 years ago and a 12 year old pumping station/interceptor sewer case study was described. However with the existing RTC technology - reliability can be a problem.

Another case study from the floor was described with easy model construction/no major difficulties and simple control rules used. The SPIDA RTC model was up and running in 1/2 day

Although spatial rainfall was an area of big benefit and possible cost savings it could be a problem in that how can we quantify the effects and develop design standards? Also what will NRA policy be?

The meeting identified a real problem in the development of techniques in the insular nature of water companies in the UK due to commercial constraints. It was felt this could only be avoided by talking to each other and that meetings such as WaPUG were valuable

It was suggested that a procedures, checklists etc. on RTC be developed. Possibly a WaPUG user notes to pass on information and knowledge on solutions, case studies, methods, cost benefits etc.

Hardware problems were discussed

- depth sensors preferred
- velocity sensors prone to problems
- use flow/depth sensors with intelligence

There appeared to be a reluctance to put equipment, including penstocks and gates, in sewers, although it has been done OK for years in sewage treatment works.

Future CSO monitoring requirements provide natural follow-on to developing RTC solutions.

RTC options must always contain a fail safe contingency plan eg. an emergency overflow.

Although discussed for years there was still the need for combining control strategies for the sewerage system with that at the sewage treatment works.

One major problem with the implementation of RTC systems is that RTC generally increases operational expenditure to save cost on capital works. Although there may well be a net saving on a full discounted cash flow basis it appears that water companies all want to be seen to be reducing operational costs and politically they are not happy with RTC style schemes. Unless an equivalent operational cost saving could be made. A scheme of control that reduced desilting would be acceptable.

Water quality monitoring was viewed as an attractive avenue for RTC with spill at overflows controlled by pollutant strength, why pass forward clean water.

- no need to wait for suitable equipment
- possible use of TOC sensors
- produce a "finger print" using modelling techniques to create control strategies

It was generally agreed that we now had the modelling capabilities

- SPIDA RTC - robust software
- software capable of modelling complex ancillaries as well as RTC schemes
- ease of modelling

We had the usual straw poles

- 6 people used RTC models
- 8 people proposed RTC schemes in drainage area plans