

Regulation of Real Time Control in Urban Drainage Systems

Summary and Conclusions from NRA R&D Project No NR35

(Taken from Draft R&D Note 555/3/N&Y. Research Contractor WRc plc)

- There is currently only a limited number of significant RTC installations in existence in the UK at the present time. Very few have consent conditions which explicitly recognise the RTC capabilities of the scheme.
- The number of global control RTC systems either in existence or in the positive process of development in the UK can be counted on the fingers of one hand. So far, only one, or two (Bournemouth and Taunton) appear to have addressed the consenting issue.
- Overseas the occurrence of RTC systems of all types is more widespread, although far from commonplace. There are several examples that have been operational for some years. The different, and for the most part less prescriptive, regulatory frameworks of these countries makes it very difficult to learn any direct lessons concerning how the NRA can consent such systems.
- Looking ahead, it is clear that most of the WSCs (and other operators) recognise RTC as a means of meeting commitments at reduced cost. The enthusiasm and imagination with which the RTC option will be pursued will undoubtedly vary considerably. Information currently available suggests that the number of major RTC applications in the UK will be relatively small, not exceeding 15-20, over the next 10 years.
- The conclusion from the above is that the NRA is obliged to develop its own methods for consenting RTC systems. There is a real need to consider the topic, but a certain amount of time is available before the issues becomes acute. This is because the implementation technology for RTC is still developing, limiting the scope of early schemes. This, in turn, allows a pragmatic interim consent setting procedure to be adopted, based on the inclusion of the operating regime in the consent documentation.
- Further ahead, the topic of RTC raises significant issues, some technical, some of policy, for the NRA (or successor organisation). These may be summarised as:
 - The need to find ways of accommodating the inherent flexibility of operation of RTC schemes whilst maintaining effective and enforceable consents. In particular, this implies:
 - The need to consider all discharge consents on an urban catchment-wide basis, and
 - The use of descriptive, or at least non-numeric, consents for major discharges;
 - Ways have to be developed to explicitly recognise and quantify the reliability and risk aspects of RTC systems;

- Environmental quality standards may need to be expressed more comprehensively.

• Finally, to be able to set effective consents which allow the benefits of RTC to be realised, the NRA has find ways of raising awareness in relevant personnel of technologies that are both sophisticated and developing quickly with time.

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Richard Freestone NRA

Question David Walters MW Barbers

You have talked about the risk of failure of RTC systems, have you looked at the risk of failure of existing CSO 's ?
In my view RTC will not come into it's own until quality of spill at an overflow is an issue ?

Answer

Not really and I have not seen any hard figures, it is the relative reliability between passive and reactive. As far as your second comment is concerned there is a big gap in technology in producing reliable sensors , the limitation is not in the modelling or the methodologies.

Comment David Walters MW Barbers

We need the NRA to say what parameter they want measured then the industry could come up with these sensor is BOD OK ?

Answer

The issue as to the most appropriate and practicable determinand has not yet resolved.

Comment Bob Armstrong Montgomery Watson

In recent schemes we have been looking at the implementation of a control rule to minimise spill volume generated a foul flush effect, and generated an increased pollutant spill.

Quality issues must be addressed.

Answer

I agree quality must be looked at not just flow in isolation.

Written Question Bruce Leatherbarrow Bechtel Water Technology Ltd

What is the time-scale for the NRA to be in a position to issue consents too discharge to projects which utilise sewerage control systems ? I have been involved with the Mersey Estuary Pollution Alleviation Scheme which has been in use since 1991. This embodies extensive use of RTC but it has inappropriate "pass-forward flow" consents which take no account of the operation of the system.

Answer

I would anticipate formal national guidelines to be available early in 1996. In the interim, NRA regions may wish to incorporate appropriate operational rules in consents for systems with extensive use of RTC but will not have the benefit of national guidelines.