

# Paper 1 - UPDATING THE UPM MANUAL

Ian Clifford - WRc Swindon  
Gerard Morris - Environment Agency

## SUMMARY

The first Edition of the Urban Pollution Management Manual was published in November 1994 following a major research and development programme that was sponsored by the whole of the UK Water Industry. Many of the planning concepts and enabling tools in the Manual were substantially new at that time and addressed issues that were, and continue to be, of great importance to the industry. The intervening period has seen widespread adoption and application of the procedure throughout the UK and, in particular, in areas having acute combined sewer overflow problems.

The major concepts of the UPM Procedure have been found to have stood the test of time well and therefore remain unaltered in the second edition of the Manual.

The first of these is the need to consider the wastewater system, comprising the sewer system, the treatment plant and the receiving water, as a single entity in which a change to one part has implications for the other parts which must be taken into account in the planning process.

A second, equally important concept, is the fact that the whole approach is underpinned by environmental standards. The modelling process is entirely aimed at demonstrating the compliance of a scheme with the standards identified by the regulator who is responsible for specifying the environmental performance of the system.

This leads to the third concept, that the form of modelling employed in a study should be appropriate to the technical needs of the study. A common misconception has developed that a UPM study automatically means costly detailed simulation modelling. In reality, many UPM studies can be undertaken using relatively simple tools. The more complex and costly tools are only employed when the economic case for using them has been proved.

Although the worth of these principles has been demonstrated, the sponsors of the original research programme agreed that, some three years after publication, it was appropriate to update the original guidance in the light of the experience gained over the intervening period. As with all important new technology, development has been rapid and, as a consequence, some parts of the original document have quickly become dated. Some aspects of the original guidance was, of necessity, based on limited experience with the new technology and it was recognised that this could be improved upon with the benefits of the knowledge gained from numerous major applications that have taken place since the original document was made available. Use of the original document has also suggested ways in which its user friendliness could be enhanced. All of these aspects, and others, have been addressed in the update. The key changes can be summarised as:

- A stronger distinction is made between regulatory policy matters and technical procedural issues. These two areas now form separate parts within the Manual.
- The document is no longer focused on the specific circumstances pertaining to England and Wales. The guidance presented is equally applicable elsewhere. References to specific planning documents which have a finite life span (e.g. AMP2 Planning Guidelines) have been removed to avoid rapid dating of the document.
- A more comprehensive range of environmental standards appropriate to the management of urban discharges are identified. More emphasis is placed on the potential role of high percentile standards, whilst the range of Fundamental Intermittent Standards is expanded and the previous Derived Intermittent

Standards are abandoned. Numerical definitions for the existing descriptive Amenity Use standards are also provided, based on research undertaken jointly by UKWIR and the Environment Agency.

- Additional guidance is given for the planning of UPM studies, maximising the use of existing data and offering either “iterative” or “confirmed” planning approaches.
- The sections on modelling are now written in a generic manner, without reference to specific modelling tools, in recognition of the wider range of software packages now available to users.
- For the first time guidance is given on the practical aspects of field data collection for the calibration and verification of detailed models.
- An improved version of the integrated urban pollution modelling tool, SIMPOL, has been developed to facilitate implementation of the UPM Procedure and is provided in electronic format with the Manual.

As previously, there is, of course, nothing mandatory about use of the procedure and tools described in the Manual. It is for the appropriate regulatory authority to specify the standards with which a scheme has to comply and the operator may choose the means by which compliance is demonstrated. However, the information presented in the Manual has a sound scientific basis and is put forward as logical methodology which represents current best practice for the management of wet weather urban wastewater discharges. As such, its use is recommended in all appropriate circumstances.

The presentation will briefly review experience to date with use of the original Manual and will identify some lessons that have been learned on the basis of that experience. The second part of the presentation will go on to review the content of the new Manual, highlighting changes from the original document.

## **DISCUSSION**

### **Question**

Brian Sharman

NWW

Could you give an indication of what influence the WaPUG membership and users had in UPM 2?

### **Answer**

Every effort was made to take on board users and practitioners, workshops were held. Initial drafting began in April 97, a workshop was held in May 97 and all organisations who had practical experience in UPM use were invited.

A further workshop in Autumn 97 this looked at standards, firstly fundamental intermittent standards, and then aesthetic standards. An attempt was made to go for a more radical approach but this was not accepted in final version.

Finally a feedback meeting was held with the same audience as May 97 invited to get their views. This was not entirely satisfactory as feedback was all done orally.