

Session 2: Questions and Answers on the Wallingford Procedure
Dr. R. K. Price, Mr. D. Williams, Mr. A. R. Eadon.

I. L. Watts, Oxford City Council.

Limitation on number of pipes in Version 7 Micro-WASSP?

R. K. Price.

Currently 300 pipes but there is potential for 400. The main problem is long run times, e.g. 60 minute simulation of 100 pipe system takes approximately 1 hour.

Dr. D. E. Wright, Applied Research and Project Management Services.

Is the level pool storage effect taken into account upstream of overflow weirs?

R. K. Price.

The effect is calculated in the same way as for surcharged manholes.

R. J. Kendell, Oxford City Council.

Can the user defined head-discharge relationship be used to simulate a hydrobrake?

R. K. Price

Yes, but be careful in the selection of appropriate curves.

J. Anderson, Dudley Metropolitan Borough Council.

Can backwater effects be calculated in open channels?

R. K. Price.

Not in Version 7 but should be included in future versions.

A. P. Coulthart

More information on the initialisation of drowned outfalls?

R. K. Price.

Cannot specify a head through a flapped outfall caused by initial flows, e.g. dry weather flow. Overcome by adjusting level hydrograph input.

D. R. Dring, Severn-Trent Water Authority.

Does Micro-WASSP contain a formula limiting number of gauges and ancillaries similar to main-frame versions?

R. K. Price.

Not sure of current status but a new formula based only on number of gauges is being introduced.

. Wood , Sir William Halcrow and Partners.

Can negative levels be used in WASSP-SIM?

R. K. Price

Levels down to -100 metres are now permissible.

J. Hind, Stockport Metropolitan Borough.

What is the restriction on the number of surcharged pipes in a network, using the 400 pipe main-frame version?

R. K. Price

It should be the same as the maximum number of pipes but the array size in Version 6 had been incorrectly set at 40.

M. Osborne, Binnie and Partners.

Comment invited on problems experienced going from positive to negative values for levels?

R. K. Price

Recommends that zero level should never be used.

G. A. Burrow, Southern Water Authority.

Requested details of Volume 2 changes and how they will affect input format?

R. K. Price

Volume 2 will be re-issued with amendments within 3 months. There will be very few changes to Input formats - mainly additional user-defined variables.

A. R. Eadon, Severn Trent Water Authority.

Asked delegates if improvements to Volume 2 are sufficient.
Is more information needed?

M. Osborne, Binnie and Partners.

The generally held opinion appears to be that users' knowledge is insufficient. Guidance notes and newsletters (possibly from WAPUG) would be appreciated.

S. G. Wilson, Tameside Metropolitan Borough.

When will Micro-WASSP Version 7 be available for use on the ACT Sirius machines?

R. K. Price

Version 7 is now available for all Micro-WASSP packages. Some confusion may have arisen because file READ.ME may not have been updated correctly.

F. W. G. Robinson, London Borough of Hounslow.

Requested comments on the accuracy of the sub-area model?

D. Williams

Recommends that the sub-area model in WASSP-SIM should not be used. There are 2 main problems:-

- a) simplification of that part of the system will provide more realistic predictions than the sub-area model.
- b) although this is often seen as a method of reducing the total number of pipes in a model, the sub-area model generates a set of pipes which could cause the total number of allowable pipes to be exceeded.

- R. K. Price
Agrees with D. Williams and confirms that the sub-area model is particularly unrealistic in surcharge.
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- R. J. Kendell, Oxford City Council.
Invites comments on Micro-WASSP error message "Insufficient flow in pipes after n simulation steps". The error appears more likely to occur when analysing the effects of "peaky" storms?
- R. K. Price.
This problem has not been properly overcome in Version 7.
Contact Dr. Price for further advice on dealing with the problem.
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- D. M. Rogers, Property Services Agency.
Is WASSP suitable for modelling surface run-off from airfields?
- D. Williams.
This is a case where WASSP is unsuitable. Recommends everyone to read Volume 1 in order to understand the limitations of the package, e.g. large paved areas will produce inaccuracies. However, it is safe to use WASSP since it will over-design.
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- A. R. Eadon, Severn-Trent Water Authority.
Are delegates really satisfied with the surface run-off model? Since PIMP varies tremendously throughout a catchment, is a general PR equation applicable? Have delegates experienced problems with definition of total area boundaries, particularly for partially separate catchments?
- P. Shelton, Severn-Trent Water Authority.
Agrees with A. Eadon. Present documentation is insufficient for new users and there is no defined way of measuring total areas.
- R. K. Price.
The PR equation was derived from small data sets and there were not enough variations in the catchments available at that time. There is a need for a separate volume expanding on user experience (not additions to Volume 2).
- J. Packman, Institute of Hydrology.
Since PIMP is used to distribute PR values throughout the catchment, discrepancies should be small. However, IoH would like to re-examine percentage run-off if funding was available.
- D. R. Dring, Severn-Trent Water Authority.
Any such inaccuracies can be overcome by data verification procedures e.g. flow surveys.
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- P.D. Godwin, Thames Water Authority.
Suspects design storm values may be too high?
- D. Williams
Meteorological Office values are incorporated in the package. Design storms and flood maps were chosen to give sensible UCWI values.

R. K. Price.

WASSP-SIM generally over-predicts levels. Be aware that in trying to produce return periods of flow the choice of antecedent conditions is important.

Summary by Dr. D. J. Balmforth.

All mathematical models have limitations and it is essential that users are aware of these. New configurations are bound to occur which will highlight new problems. Developments will take place but finance must be made available.