books

Guidelines for Drinking-Water Quality
Second Edition, Vol II:
Health criteria and other supporting information

WHO, Geneva, 1996.
973pp. Hbk. SF 182 (US$234)***
ISBN 92 4 154480 5

This is an excellent reference book for all specialists active in water supply and water-pollution control. The many contributors involved in its preparation (listed in Annex 1) are to be congratulated. The data presented is the basis for the guideline values summarized in Annex 2, and described in detail in *Volume I: Recommendations*.

The volume is divided into three parts, covering the microbiological, physical and chemical, and radiological aspects of water quality, with the major input — around 80 per cent — discussing the various chemical substances/contaminants that may be present in water. The use of a standard format for all substances within each section, together with the supporting reference lists, enables the reader to locate information easily.

Part 1, 'Microbiological aspects', includes sub-sections on pathogenic/parasitic bacteria, viruses, protozoa, and helminths (parasitic worms). In addition to general data, these segments provide information on the health effects and routes of exposure. The inclusion of figures and/or plates would have been useful.

Part 2, 'Chemical and physical aspects, has comprehensive chapters devoted to inorganic constituents and physical parameters; organic pollutants; pesticides; and disinfectants and disinfectant by-products. For each chemical there are details on how it affects the sensory organs, the environmental fate and levels; and experimental results on animals/*in vitro* systems, with, where appropriate, the basis for guideline values.

Part 3 gives a concise summary of radiological aspects.

Although available at a reduced rate overseas, as opposed to the full £135; this price may restrict the distribution of, and access to, this useful reference book in many countries. As the capacity/capability to determine many of the organic substances, including pesticides, is low in a number of these countries, it may be worth considering publishing sections of the volume separately, to ensure wider availability and access to the most relevant sections for practitioners in these countries.

Margaret Ince, WEDC

*** There is a 30% discount for developing countries, and a 50% discount for NGOs; NGOs can purchase a copy for use in the South at the special developing-country price LESS their 50% discount — p&p inclusive.

Pipeflow for Windows — Computer software and user manual

J. Tuach, W. Chojnackki, and S. Kulkami

Thomas Telford, London, 1996.
£65.80. ISBN 0 7277 2062 7

Pipeflow is a PC-based programme which offers an alternative to the traditional method of designing and analysing the flow of liquids in circular pipes under gravity conditions (such as foul and stormwater sewers) The programme provides all the information already available from the traditional HR Wallingford tables and charts, but also allows for the introduction of a much wider range of liquids (for example, soils and fats) of various viscosities, and at a range of different temperatures. There is also a facility for customizing the programme to model user-defined liquids. The programme allows the use of three different formulae — Colebrook-White, Manning, and Hazen Williams. Calculations may be done in metric or US customary units.

The programme is supplied on a single 3.5-inch disk, and the 17-page manual gives clear instructions on how to install it. The manual is easy to read, and it describes all the components of the programme and how they interact. It also includes a worked example.

Pipeflow presents two screens. The first, the main screen, is where the data is entered and the results presented. The second screen presents a complete set of results for each calculation.

The main screen is divided into four display areas. The 'input' area is for entering data about a specific pipe such as flow-rate, pipe diameter, pipe slope, etc. The type of input required depends on the type of liquid being transported. The 'criteria' area comprises a series of drop-down list boxes where the basic design parameters, such as pipe roughness, temperature, minimum velocity etc. can be set. The computed results are displayed in the 'results' area, and a graphical display of a circular pipe indicating the proportional depth of flow is shown in the 'display' area. A menu bar at the top of the screen provides the normal programme-management facilities and options for changing the basic design criteria, such as the formula used, liquid in the pipe, and units and peak factors.

The results are in spreadsheet format. The first column lists the titles of the data presented and the subsequent columns give the results of each calculation. The results cannot be saved within the programme, but there is an option for saving them as a text file. Also, the results cannot be named: they appear in columns lettered 'A', 'B', 'C' etc., so it is important to keep a record of the calculations elsewhere.

The market for this product is not clear. The programme is designed primarily for the hydraulic design of single pipes running part-full, but the title and external packaging suggest a wider use. There is no facility for designing pipes under pressure, where the slope of the hydraulic gradient line is fixed and a pipe diameter must be calculated, and the sewer-design section does not allow for the design of intermediate pipes where the flow is partly from surrounding areas and partly from contributing pipes.

I feel that the usefulness of this programme is limited. Those involved in the design of individual gravity-flow pipes may find it useful but, for those required to design or analyse networks, there are better and cheaper programmes elsewhere.

Bob Reed, WEDC