

AQUA News



February 1998

IWSA—International Water Services Association: AISE—Association Internationale des Services d'Eau

Nicholas Hood, our President, explains the reasons behind, and some of the implications of the new IWSA Constitution

All over the world, the water industry is undergoing massive change, and water, a limited resource in many countries, is now receiving the global attention it deserves.

With many serious water scarcity predictions for the future, steps are needed to redress the imbalances of supply and demand, while maintaining a healthy check on pollution and environmental issues.

In view of all this, what should the role of the IWSA be? To meet the challenge, the Association has been reviewing how it operates and how it should develop as an authority on water.

At the last General Assembly in Madrid, the Constitution and By-laws were revised. Why? To prepare for the future of our Association, and the expansion of its objectives. The inclusion of wastewater management has constituted a major change to the work of the Association and is reflected in the change of name to the International Water Services Association. The Association will be geared toward the world-wide trend for the multi-functional management of water and wastewater operations. Indeed, the Objects and Powers of the Association were reviewed to realise world-wide recognition as the international organisation which

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encompasses water services in a broader sense. The new Objects and Powers given below, demonstrate how activities will be developed in order to confront contemporary water issues such as private sector participation, environmental practice, management, sustainable development, regulation, etc.

The new Constitution means that each Corporate Member now has the right to appoint two representatives to each Committee of the Council.

It has been recognised that the General Assembly has a more strategic duty, whereas the Board and Executive Committee have been given more flexibility and the powers to engage in faster decision-making proc-



esses. Amendments to the Constitution can now be proposed and ratified within three months.

Turning to the By-laws, we now have a Board, Council and Executive Committee, the latter being able to take interim decisions.

The Executive Director (formerly Secretary General) has prepared a four-year Development Plan for the newly structured IWSA which focuses on promoting the important aspects of the Association such as membership, publications, events and funding.

Talks are also taking place between the IWSA and the IAWQ (International Association on Water Quality) as to a possible merger of the two Associations. Preliminary discussions have identified the benefits of such a merger and we are now considering the implications of the merger in more detail. If the plan goes ahead, one aspect of the merged associations will be to retain the excellent committees and specialist groups of each body, allowing them to develop as required. Members will be brought up to date with developments, now that the Board has given the green light to progressing the proposal.

Last year we celebrated 50 years of the IWSA—what will the next 50 years bring, and how will our Association face up to the challenge? We believe we must have the vision and determination to become the premier international authority on water, representing the views of the water services community. With this in mind, the Association has been granted the following Objects and Powers:

(1) The Objects of the Association are to advance education in, public awareness of, and the promotion of research into good practice in the water services industry and to publish the useful results of research for the benefit of the public.

(2) In furtherance of these Objects (but not further or otherwise) the Association shall have the following Powers:

- to be the international body concerned with water services;
- to promote public awareness of the global need for wholesome water for all and the associated water resource, water, supply and wastewater problems;
- to promote, encourage and find ways to facilitate the international exchange of information and knowledge between countries and between countries and between those concerned with water supply and wastewater in the areas of education, research, water and wastewater management water treatment, methods of supply institutional is-

sues, economics, financing of services, private sector participation, statistics, customer services, public relations, efficiency standards and regulation, other users needs and other matters of common interest;

- to promote good environmental practice;
- to promote practices for the improvement of public health;
- to act as the authoritative body articulating the views of the international water services industry;
- to encourage better understanding between those engaged in water services and related activities and to act as a centre of information about the activities of its members;
- to promote the concept, understanding and practice of sustainable development of water services;
- for these purposes to organise World Congresses, Specialised and Regional Conferences, symposia, workshops and similar events, and to produce, contribute to and advertise in scientific and technical publications;
- to make submissions to legislative bodies and/or regulatory authorities

It is imperative that over the next two years we put in place a stronger Association, representing all sectors within the water industry from suppliers to operators, from contractors to managers and consultants. My aim is to ensure that these objectives are achieved.



IWSA President, Mr Nicholas Hood

We will miss you, Lynne

After nearly nine years with the IWSA Secretariat, Lynne Callegari has decided to move on and take a job within the mortgage industry. For all of us who have had the



Miss Lynne Callegari, Personal Assistant to the Executive Director

pleasure to work alongside Lynne, she has been a constant driving force, a fount of knowledge and a pillar of strength for the IWSA. Her departure will be a loss to us all, both professionally and for some of us, personally. However, true to herself as always, Lynne has not left us without leaving a few words of reflection and thanks:

By the time you read this I will have left IWSA but since I am writing this in December, I could not leave without saying thank you and farewell to all the members who I have met at meetings and conferences, and especially to the members of the Board and Council, for their friendliness and kindness. Through IWSA I have been lucky enough to visit many countries and have some wonderful memories of the hospitality that people have shown. I shall still work in central London and intend to keep in touch with my

former colleagues on a regular basis and thus will keep up to date with what is happening in IWSA

**With best wishes for the future.
Lynne S. Callegari**

Details of Lynne's successor will appear in a future issue of *AQUA News*.

Obituary—Sohrab Peshotan Unvala

Mr Soli Unvala was born on 26 September 1929. He gained a Bachelor's Degree in Civil Engineering from Poona University in 1951 and after a short spell of work in the Electric Grid Department of the Government of 'Bombay', he joined the Water Supply Department of Bombay Municipal Corporation in 1952 as a Sub Engineer. During this time, he worked on the construction of the Central Chlorination Plant at Powai and later, as an Assistant Engineer, on the pilot water treatment plants in Vaitarna.

While working for the Bombay Municipal Corporation he took leave for a year's study and obtained his Master's Degree in Public Health Engineering, specialising in water treatment, from Calcutta University in 1961.

He then joined Mssrs Candy Filters (India) Ltd where he rose to the position of Deputy Chief Engineer in 1982. During his time with Candy Filters, Soli worked on the design and installation of numerous Water Treatment plants of various sizes all over India and in some of the developing countries in Africa. From 1982 up until his death on 7 November 1997, Soli worked as an independent consultant in water supply and water treatment engineering. He gave advice to various Government and private sector clients throughout India and the UK.

One of Soli's strengths was his ability to extend his professional skills beyond what was really required of him. His professional life involved many extra activities. Indeed, he was a founder member of the IWWA, and worked on its Council of Management and Editorial Board, as well as publishing a small 4-page bulletin called 'Midstream'. Soli presented many papers which were published by international organisations including the AWWA and IWSA. His knowledge and experience were recognised by the University of Mumbai, who invited him to set and examine M.E.(PH) university papers.

The idea that international associations of various water disciplines should observe the United Nations' World Water Day on 22 March each year was mooted and propounded by Soli at the World Water Congress in Copenhagen in 1991

Soli was a Life Fellow of the Institution of Engineers, the premier voluntary organisation of Engineers in the country since 1983, and worked as the Convenor for the Environmental Engineering Division in the Managing Committee of its Maharashtra State Centre from 1983 to 1987. He was also a Life Member of the Indian Association for Environmental Management from 1965 and of the Institution of Public Health from 1970. Perhaps Soli was most renowned for his involvement with the Indian Water Works Association. As a founder member, he was the main driving force behind its success and took on the role as President from 1987 to 1989. He later became an Honorary Director, a position which he held until his death. He had also been a member of the American Water Works Association since 1957 which conferred on him its Honorary Membership on 24 June 1996. Soli was truly devoted to his work, not only in the field of water, but also to the work of the Dilkhush Welfare Society, of which he was a founder member, for handicapped children. (He bought a piece of land in Sanjan in the State of Gujerat to build a home for these children.) Finally, he became a member of the International Water Services Association in 1991 and received Honorary Membership on 9 November 1995. The reasons for this prestigious award were summed up on his Honorary Membership Certificate:

'After many years of close association with IWSA in his various functions with the Indian Water Works Association, Soli Unvala became chairman of the ASCEW (now ASCEN) region in 1989. At that time, this region of Central Asia consisted of only four Member Countries—namely India, Seychelles, Sri Lanka and Mauritius. Mr Unvala has worked tirelessly and given many hours of his time to expand this region and steadfastly refused to accept that the region may not function, as it is perhaps collectively the poorest region of the world. Since becoming Chairman he has, through his enormous powers of persuasion, recruited Bhutan, Nepal and Bangladesh as Corporate Members... Mr Unvala has always been a great believer in

the exchange of information under an international umbrella and his dedication to the work of IWSA makes him a worthy recipient of Honorary Membership for this meritorious service.



Mr S.P. Unvala, 1929–1997

Disinfectant residuals

Please note that the AWWA/IWSA **Workshop on Water Quality in the Distribution System: What is the Role of Disinfectant Residuals?** is taking place on 26–28 April in Boston, USA. You will find the Final Announcement enclosed with this issue.

Its sister event, the **Specialised Conference on Drinking Water Distribution with or Without Disinfectant Residual** organised by IWW, AWWA and IWSA is taking place on 28–30 September 1998 in Mülheim an de Ruhr, Germany. The Call for Papers is enclosed.

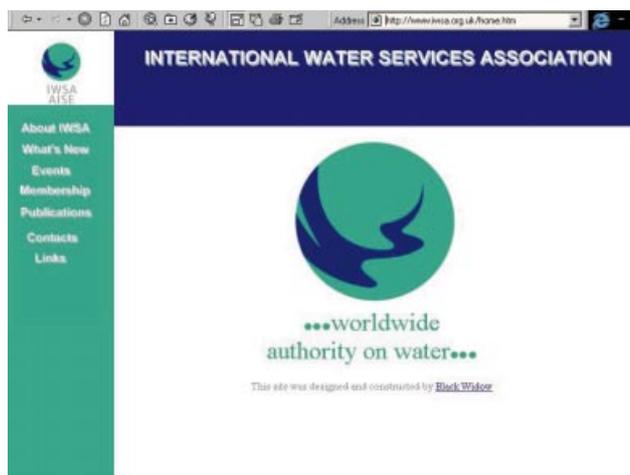
IWSA.ORG.UK !!!!!

The IWSA is extremely proud to announce that its official web site is now on line! You can access the web site at the following address:

<http://www.iwsa.org.uk>

You will find the most up-to-date information about our organisation, its activities and events, Task Forces, membership, publications and lots more.

Please come and visit our site and let us know what you think and how we may improve on it. After all, the web site has been developed to serve you, our members and we aim to please!



Groundwater—an invisible resource

The 22nd of March is almost upon us once again and plans are well underway at various points on the globe to celebrate World Water Day.

This year's theme is 'Groundwater—an invisible resource', an idea which has sprung from the need to exploit more resources in order to quench the thirst of the world's ever-increasing population.

World Water Day is a UN initiative and it is the UN Administrative Committee which selects the theme every year and appoints one of its member organisations to coordinate the day. This year it has asked the World Water Council to take on the task and act as an international reference point. The Council's activities will be based in the International Water and Sanitation Centre in the Hague, the Netherlands.

WaterAid is planning to re-run its hugely successful 'Grey to Blue Day' where people will be asked to dress in blue, and not the normal grey office colours. This is to represent the change from dirty grey water to clean blue water in an ideal world where everyone has access to clean water for drinking and sanitation purposes. In addition, there will be lots of fund raising competitions and Public Relations campaigns to raise the profile of water. These will include publishing two reports on South India, and world-wide child mortality rates connected to the lack of safe drinking water. They will also be relaunching their web site at:

<http://www.oneworld.org/wateraid>

WaterAid has engaged the support of the Environ-

mental Agency and various UK Water Companies for its World Water Day activities.

The IWSA would like to hear from you, our members on how you are celebrating World Water Day, and if you have raised funds for particular water-related activities. Apart from raising public awareness of the world water crisis, this is also an excellent opportunity to promote the work and services of water supply utilities.

We hope that your effort and enthusiasm for the event is as great as in previous years.

New Members

The IWSA would like to welcome its newest members this year. They are the following:

Mr H-S Shin (Korea)

Mr R. Saha (India)

Cape Metropolitan Council (S. Africa)

NV Waterleiding Maatschappij Limburg (The Netherlands)

The Dutch WML has come about through the successive amalgamation of 13 municipal and 4 regional water companies during the 1970s and the 1980s. In the near future WML will be the sole water supply company for the entire province of Limburg, which has a population of 1140 000.

The company is incorporated as a N.V., a limited liability company, whose shares are owned by the province of Limburg and all its constituent municipalities.

Buenos Aires

The IWSA 22nd World Congress in 1999 is already drawing closer, and at great speed! The IWSA Secretariat has issued the Call for Papers which you will find enclosed with this issue of *AQUA*. Please note that the deadline for submitting abstracts is Friday 15 May.



Plaza de Mayo, Buenos Aires, Argentina.

Vision for world water, life and the environment

The World Water Council is undertaking a major activity to define its vision for the next century on world water, life and the environment. This task will examine available fresh water resources, future demands, potential conflicts and opportunities and will define a clear vision for global action. This will include research, consultations, workshops, print/electronic publications and many other means for absorbing, synthesising and disseminating knowledge. The Vision will offer decision makers in the water industry conclusions and recommendations for action to be taken in order to meet the needs of future generations.

A mandate was given to the World Water Council during the World Water Forum of Marrakech in March 1997 to undertake this task. This was reaffirmed by the UN General Assembly Special Session and the proposal of President Chirac to support the development of the Vision.

The Vision will study and coordinate the various water-related activities that contribute to the preservation of ecosystems and improve the quality of life. Its aims are to:

- Ensure food security through aquaculture, rain-fed and irrigated agriculture;
- provide adequate water supply and sanitation services at affordable prices;
- Manage and develop water resources for economic development including hydropower, agriculture, water supply and sanitation, tourism and recreation; and
- protect the environment, including coastal areas and wetlands.

It is intended that several studies, consultations and briefings will be conducted at different levels so as to assure the full participation of the major stakeholders, and hence ensure a broad reflection of their aspirations and conclusions.

European Water Associations in Merger

Europe's two leading water trade associations merged on 1 January this year. The move was designed to provide both sectors of the industry—drinking water and waste water—with a single voice, providing stronger representation to European institutions dealing with Community legislation and European standards.

The new organisation is the European Union of National Associations of Water Suppliers and Waste Water Services—EUREAU for short. It has been created from the two constituent organisations, the Union of National Associations of Water Suppliers (EUREAU) and the European Waste Water Group (EWWG)

The National Association of the 15 European Union Countries, and of Norway and Switzerland, are full members of EUREAU, with the Bulgarian, Hungarian and Icelandic associations as observer members.

The President of EUREAU is Theo Martijn, (Netherlands), with Ortwin Scholz (Germany) as Vice President. The Secretary General of EUREAU is François Rillaerts.

Theo Martijn explained the reason for the merger in the following terms:

'The merger is in line with the integrated approach covering the whole water cycle advocated by the European Community. It will bring clear lines of communication to European institutions who will have to deal with only one association. It will also eliminate any conflict between the two sides of the industry on overlapping issues.

EUREAU represents a unique concentration of technical and scientific technology and practical experience in the fields of drinking water and of waste water. The contribution its members have made to community water affairs has been important in the past, but the new organisation's potential role in the future is even greater.'

Environmental oestrogens

BY DAME BARBARA CLAYTON

Studies of the masculinisation of fish exposed to industrial effluents and reports of falling sperm counts in men have been linked to produce doom-laden media stories which have predicted the end of the human species. In this article Dame Barbara Clayton, the medical adviser to Wessex Water Services Ltd,

reviews the evidence and the continuing research to establish the facts.

As long ago as 1950 it was noticed that young roosters who were fed DDT failed to develop their red combs and wattles and had small testes. Since then there have been numerous examples of creatures living in the wild showing evidence of reproductive failure and abnormalities. It has been suggested that environmental oestrogens are responsible. Adverse effects have been reported in many creatures, including those as diverse as alligators in which abnormal development of the reproductive system has been observed in the embryo, gulls which laid normally large clutches of eggs, female molluscs developing male characteristics and cows which become infertile or aborted when eating certain plants. Effects have also been seen in male fish which developed hermaphroditism and produced vitellogenin. This compound is normally formed by females but males can produce it in response to oestrogenic hormones. The determination of vitellogenin is one of the assays used in experimental studies. Fish in some UK rivers have produced the compound under the influence of oestrogenic compounds such as alkylphenols in sewage effluents. Not all fish show the same degree of sensitivity. The male trout, for example, is 10 times as sensitive as the roach. Fish appear to be particularly sensitive to ethinyl oestradiol, which is a component of the contraceptive pill. In relation to sewage effluence discharges, oestrogenic effects have been observed, for example, in wild fish in the Hertfordshire River Lea, the Tyne estuary, and at 13 sites in Scotland where oestrogenic detergents and plasticisers may have been responsible.

Compounds with oestrogenic activity include naturally occurring oestrogens, man-made products of many kinds and compounds with pharmaceutical uses. They may interact with oestrogen receptors and mimic or antagonise the effect of endogenous oestrogens. They may interfere with the synthesis and metabolism of the receptors and they may affect hormone synthesis and metabolism. Hormonal effects are not unique to oestrogens; some abnormalities have been observed in relation to the proper functioning of testosterone and it is likely that future research will demonstrate interference with other hormone systems in the wild.

Some chemical compounds which are reported to mimic oestrogens include permethrin, linuron, lindane and endosulfan, all of which are pesticides, and tributyl tin and other organo-tin compounds used as anti-fouling paints and as stabilisers in plastics and timber preservatives. There are many others in the literature. The Environment Agency has found that the oestrogenic

substances present in sewage effluent are predominantly the natural steroid compounds oestrone and 17β -oestradiol, and the synthetic oestrogen ethinyl oestradiol. Low levels of alkyl phenols from detergents are also implicated. An important finding is that although humans and other mammals excrete oestrogens in inactive forms, these appear to be converted into active forms during sewage treatment.

There are a number of concerns relating to the reproductive health of humans. However, differences in the response of various species to chemicals can be very large and the relevance of animal studies to findings in humans is completely unknown.

The incidence of testicular cancer, especially in younger white men, has been increasing for many years. There are large geographical differences which appear to be real and the cause is unknown. There has also been a rising incidence of breast cancer in women. Whether some reported increases in hypospadias and cryptorchidism in various parts of the world are really meaningful observations is not at all clear. For example, the diagnostic criteria are not the same everywhere and, depending on the health services in a particular country, cases in babies may not be ascertained.

The media has given most attention to reports of falling sperm counts which, incidentally, do not necessarily imply reduced fertility. The literature on sperm counts goes back many years. Semen has been collected at a variety of times of day, in various geographical areas under a variety of conditions. The storage and subsequent counting of sperms was not carried out to a standard protocol. The many variables include age, very different life styles, period of abstinence from intercourse, smoking, temperature, type of underwear, consumption of alcohol and so on.

It is therefore welcome news that an EC-funded project will measure sperm counts, hormone levels and time to pregnancy in Edinburgh, Paris, Helsinki and Copenhagen and a rigid common methodology will be used for collection, storage and counting of sperm in the laboratory. It is hoped that this will provide a proper baseline for male fertility and that lifestyle and genetic factors will also be included. Ultimately, the study should provide a reliable answer to whether or not there is really a fall in sperm counts. The possibility cannot be ignored, but obtaining a valid scientific answer will take some time. The cities in the study derive their water supplies from different types of sources e.g. Paris from lowland rivers, Edinburgh from upland impoundments. The study may provide some information about

the influence on sperm count of water quality from different types of water sources.

Exposure of humans (and indeed of wild creatures) to environmental oestrogens might occur at any age, including during foetal life. The administration of stilboestrol to pregnant women some years ago was a treatment for recurrent miscarriages. Unfortunately, and completely unexpectedly, some of their daughters developed cancer of the vagina during adolescence and later. They had been exposed *in utero*. The doses used were large but this observation serves to illustrate how easily an unexpected mishap can occur.

Natural oestrogenic substances, known as phytoestrogens, occur in plants and are structurally or functionally similar to 17β -oestradiol. There are a number of classes of such compounds and they or their precursors are particularly common in whole cereals, vegetables, legumes and fruits. Phytoestrogens can act as oestrogens or anti-oestrogens. Effects have been seen when large amounts of certain plants have been fed to animals, but the potency of the compounds is weak. There are also a few reports of hormonal effects (masculinisation) being observed in fish downstream of paper mills and plant compounds in the pulp have been considered responsible. In humans there is considerable evidence which suggests that phytoestrogens may be beneficial in the prevention of such disorders as certain cancers and cardiovascular disease.

Conclusions

There is therefore a need for more research, to look further at the effects of releasing into the environment man-made oestrogens and compounds which have oestrogenic or anti-oestrogenic effects. Whether or not the adverse effects seen in the wild have any relevance to humans is unknown. However, the observations on wild life and those on humans where the science is reliable, do give grounds for concern. It is highly undesirable to release compounds with hormonal activity into the environment. Water is one part of the environment and reported studies do have implications for the disposal of sewage. It is reassuring that Wessex Water delivers a supply from ground water and surface water areas, all of which are free of significant sewage effluent discharges.

This article was reproduced from 'Water Works' with the kind permission of Wessex Water and Dame Barbara Clayton.

events

2–4 March 1998, Tehran, Iran
Asian Conference on Water and Wastewater Management

Further information: Secretariat of Asian Conference on Water and Wastewater Management, PO Box 14185-448 Tehran, Iran. Tel.: +98 21 8864914; Fax: +98 21 8008588.

19–21 March 1998, Paris, France
International Conference organised by the French Ministry for Foreign Affairs and the Ministry of Spatial Planning and Environment—'Water and Sustainable Development'

Further information: General Conference Secretariat, Centre for International Conferences, 19 avenue, Kleber, 75016 Paris, France.

22 March 1998
World Water Day: 'Groundwater—an invisible resource'

Coordinated by the UN Agency, UNESCO.

26–27 March 1998, London, UK
Water Environment Biennial Conference and Exhibition entitled 'Maintaining the flow'

Further information: Thomas Telford Conferences, 1 Great George Street, London SW1P 3AA, UK. Tel.: +44 (0)171 665 2315; Fax: +44 (0)171 233 1743; Internet: <http://www.t-telford.co.uk/co/conflist.html>

10–12 April (date change) 1998, Chandigarh, Punjab, India
30th Annual Convention of Indian the Water Works Association.

Further information: Administrative Manager of IWWA, Pipeline Road, Vakola, Santacruz (east), Mumbai 400 055, India. Tel.: +91 22 6140926; Fax: +91 22 649 0691.

21–23 April 1998, Marseille, France
HYDROTOP International Conference on water Management Services and Technologies

Further information: HYDROTOP, 314 avenue du Prado, 13008 Marseille, France, Tel.: +33 (0)4 91 22 72 72; Fax: +33 (0)4 91 22 71 71.



26–28 April 1998, Philadelphia, USA
AWWA/IWSA Workshop on Water Quality in the Distribution System: What is the Role of Disinfection Residuals?

Further information: Rick Merrill, AWWA, Tel.: +1 303 347 6185; e-mail: rmerril@awwa.org

10–13 May 1998, Washington, DC, USA
NSF/PAHO/WHO 1st International Symposium: Technology, Operations and Economics of Providing Safe Drinking Water in Small Systems.

Further information: Joseph Cotruvo, Director NSF International/WHO Collaborating Center for Drinking Water Safety and Treatment, 1301 K Street NW, Suite 225, Washington, DC 20005 USA. Tel.: +1 (202) 2896 2140; Fax: +1 (202) 289 2149; e-mail: cotruvo@nsf.org

25–28 May 1998, Kristiansund, Norway
The 1st Nordic Conference on Water Supply

Further information: Åsre Fjellby, Norwegian Society of Chartered Engineers, Postbox 2312, Solli, N-0201 Oslo, Norway. Tel.: +47 22 94 75 00; Fax: +47 22 94 75 02; e-mail: ase.fjellby@nif.no



25–30 May 1998, Moscow, Russia
ECWATECH 98: Third International Congress on 'Water: Ecology and Technology'

Further information: PO Box 173, Moscow, 107078 Russia. Tel./Fax: +7 (095) 207 63 60/207 64 75/957 48 08; e-mail: ecwatech@sibico.msk.ru



26–28 May 1998, Maputo, Mozambique
IWSA International Conference on Renovating Water Supply Systems

Further information: Palmira De Sousa, Secretariado da Comissão Organizadora em Lisboa, a/c IPE-Águas de Portugal, Av da Liberdade, 114–134, 5º, 1250 Lisboa, Portugal. Tel.: +351 1 3223 07 40; Fax: +351 1 347 26 43; OR: Sofia Cassam, Secretariado da Comissão Organizadora em Maputo, a/c Empresa Água de Maputo, Av. Eduardo Mondlane 1352, CP2925, Maputo Mozambique. Tel.: +258 1 427 541; Fax: +258 1 424 675.





17–18 June 1998, Prague, Czech Republic

IWSA Conference on Master Plans for Water Utilities

Further information: Mr Lubomír Macek, Faculty of civil engineering, CTU Thákurova 7, CZ199 29 Praha 6, Czech Republic. Tel.: +42 2 2435 4608/4607; Fax: +42 2 243 4607/10735; e-mail: Macek@fsv.cvut.cz

10–13 August 1998, Stockholm, Sweden

8th Stockholm Water Symposium on 'WATER: the key to socio-economic development and quality of life'

Further information: Stockholm Water Symposium, SE-10636 Stockholm, Sweden. Fax: +46 8 736; e-mail: sympos@siwi.org

16–18 September 1998, Como, Italy

HYDROSOFT 98 – 7th International Conference on Hydraulic Engineering Software

Further information: Conference Secretariat, HYDROSOFT 98, Wessex Institute of Technology, Ashurst Lodge, Ashurst, southampton, SO40 7AA, UK. Tel.: +44 (0)1703 293223; Fax: +44 (0)1703 292853; e-mail: liz@wessex.ac.uk

21–24 September 1998, Amsterdam, The Netherlands
AQUATECH 98: International conference on membranes in drinking water and industrial water production

Further information: Prof. Dr ir. J. C. Schippers, IWSA, KIWA NV, PO Box 1072, 3430 BB Nieuwegein, the Netherlands. Tel.: +31 30 6069 532; Fax: +31 30 6061 165; e-mail: jschippe@kiwaoa.nl or Prof. M. Balaban, European Desalination Society, International Science Services, Abruzzo Science and Technology park, Science and Industry Center, Via Antica arischia 1, L'Aquila 67100, Italy. Tel./Fax: +39 862 311 411; e-mail: psta004@in.sgol

23–24 September 1998, Amsterdam, the Netherlands
Trends in On-line Monitoring and Control of Water Supply—The point of view of manufacturers and suppliers (in conjunction with Aquatech '98)

Further information: ir. Egbert Roosma, N.V. PWN Waterleidingbedrijf Noord-Holland, PO Box 5, 2060 BA Bloemendaal, the Netherlands. Tel.: +31 23 5413727; Fax: +31 23 5413716.

28–30 September 1998, Mülheim, Germany
Specialised Conference on drinking water distribution with or without disinfectant

Further information: Prof. Rolf Gimbel, IWW, Moritzstrasse 26, Mülheim an der Ruhr, Germany, Tel.: +49 208 4030 3300. e-mail: iww@uni-duisburg.de

7–9 October 1998, Klaipeda, Lithuania

International Conference on the Development of Deep Aquifers and Problems in Drinking Water Treatment.

Further information: International Conference Organising Committee, Justiniskiu g.16, 2056 Vilnius, Lithuania.



15–18 November 1998, Tokyo, Japan

International workshop on Anti Seismic Measures on Water Supply.

Further information: Japan Water Works Association, Tokyo Minami Shinjuku Building, 7–8, 2-chome Yoyogi, Shibuya-ku, Tokyo 151, Japan. Tel.: +81 3 (3379)7642; Fax: +81 3 (3379) 8630

19–20 November 1998, Tokyo, Japan
International Water Supply Symposium in Tokyo '98, on "Water supply systems and the urban environment; perspectives on the future."

Further information: Registration Secretariat for International Water Supply Symposium in Tokyo, '98, Congress Corporation, 7th Akiyama Bldg., 5-3 Kojimachi, Chiyoda-ku, Tokyo 10-2, Japan. Tel.: +81 3 3263 4031; Fax: +81 3 3263 4032.

11–19 September 1999, Granada, Spain

17th International Congress and 50th International Executive Council Meeting of the International Commission on Irrigation and Drainage

Further information: Ms Catherine Roy, Secretary of the 17th ICD International Congress, Confederación Hidrográfica del Guadalquivir, Avda de Madrid 7, 11th floor, 18012 Granada, Spain. Tel.: +34 58 29 59 84. Fax: +34 58 27 06 41



18–24 September 1999, Buenos Aires, Argentina

22nd World Congress and Exhibition

Further information: IWSA Secretariat, 1 Queen Anne's Gate, London, SW1H 9BT, UK. Tel.: +44 171 957 4567. Fax: +44 171 222 7243, e-mail: iwsa@dial.pipex.com



new publications

Bulk Water Pipelines. By Tim Burstall. Available from Thomas Telford Publishing, 1 Heron Quay, London E14 4JD, UK. Tel.: +44 (0)171 665 2464; Fax: +44 (0)171 537 3631. Price: £35; hardback, 200 pp; ISBN: 0-7277-2609-9

The occurrence of earthquakes in many countries of the world is a reminder of the variety of lifelines that are keeping our cities healthy. Bulk water mains are a very important lifeline, providing a primary supply of treated water to the cities they serve. Each reservoir has a limited storage time. In today's setting, with the evolution of each system catering for the growth in demand, the storage time might be less than one day. This fact requires a well-organised pipeline section to keep the customers satisfied.

Based on Tim Burstall's extensive experience, *Bulk Water Pipelines* has been specifically written as a practical guide covering many of the factors that need to be considered in the design, construction, operation and maintenance of bulk water pipelines. It will prove to be a valuable tool for practising engineers, designers, field supervisors and personnel involved with all the aspects of bulk water pipelines.

The book covers the following topics: pipeline materials; linings and coatings; joints; pipe fittings; valves; cathodic protection; internal inspection; leaks; modifications to system; tunnels; pipe laying/routing; water quality issues; health and safety issues; engineering drawings; pipelines in land; Appendix: Earthquake response plan.

Water Wells: Implementation, Maintenance and Restoration. By Michel Detay. Available from John Wiley & Sons, Baffins Lane, Chichester, West Sussex, PO19 1UD, UK. Tel.: +44 (0)1234 779777; E-mail: cs-books@wiley.co.uk; Internet: <http://www.wiley.com> Paperback; 379 pp; ISBN: 2-225-85622-2

This book is the most comprehensive reference yet printed for those involved in the development of groundwater resources. Although the scope to the book is broad, it focuses on the practical elements of individual topics; theoretical concepts are discussed only when they serve to directly strengthen practical knowledge.

Material is presented so that the interested reader, regardless of background, can learn important concepts and, when necessary, apply this information to the solution of a broad range of groundwater problems. The professional engineer, for example, will find that this

book has virtually all of the essential engineering data required for the successful design and construction of water wells. The chapter on drilling fluids will be particularly helpful to water well contractors, as will the extensive chapters on screen installation, well development, water well pumps, and well maintenance and rehabilitation. Consulting hydrologists will appreciate the clear explanation of groundwater exploration techniques, water well hydraulics, the collection and analysis of pumping test data, monitoring well design, and installation procedures. Educators, students, water well contractors, engineers, hydrologists, environmentalists, government officials and students around the world can use the book as a reference on almost any aspect of water well drilling.

Selected Topics on New Developments in Physico-chemical Water Treatment (*Proceedings of The Chemviron Carbon Award Meeting held at the University of Leuven, 29–30 May 1997*) Edited by J Baeyens, P. Dolesj, N. Taylor and G. Waller. Available from: I Vankhove, Chemviron carbon, Bd de la Woluwe 60, B-1200 Brussels, Belgium.

The Chemviron Carbon Award, founded in 1976, has now been presented 11 times. The prize is awarded in recognition of outstanding work in the area of physical and/or chemical treatment of water, including drinking water, industrial water and wastewater treatment.

Whereas physical operations relate to treatment brought about by the application of physical forces (settling, flotation, gas transfer, filtration etc.), chemical operations are related to treatment by means of chemical reactions (chemical precipitation, disinfection, oxidation by ozone or hydrogen peroxide, etc.) Coagulation, activated carbon adsorption, ion exchange, crystallisation, membranes and other technologies are frequently classified as physical or chemical unit operations, although most of them combine physical and chemical effects.

Over recent years, regulations have undergone a vast change (more stringent water quality criteria, discharge taxes, etc.) which have resulted in the further refinement of conventional techniques and the development of new technologies. The challenge today is to meet these requirements in an environmentally acceptable and cost effective manner. For the 1997 Chemviron Award, 28 papers were received, each of them presenting facts and figures for solutions to specific treatment requirements.



new publications ■

Papers were evaluated by The Chemviron Carbon Award Committee, a distinguished body of scientists representing many European countries. The Award Committee evaluates the papers entirely independently of the Chemviron organisation. For the first time this year, Chemviron Carbon have decided publish this book containing the 1997 winning paper and a selection of the best papers submitted.

Worldwide Water Privatisation: Managing risks in water and sanitation. An FT Energy Report available from; FT Energy, Maple House, 149 Tottenham court Road, London W1P 9LL, UK. Tel.: +44 (0)171 896 2241; Fax: (0)171 8962275; Internet: <http://www.ftenergy.com>

Governments world-wide are turning to private initiative and capital to address significant operational failures and funding gaps in the provision of water and sanitation services. Developing countries in particular have the greatest need for investment, with fast-growing urban populations increasing the pressure on water supplies and sanitation systems.

The World Bank estimates that \$600bn must be invested in the global water industry over the next 10 years. Such resources are not available to traditional government-run utilities, and privatisation is seen by many to be the only feasible way to finance and manage the large-scale water and sanitation projects required to meet growing needs across the world.

FT's Energy's new report, *Worldwide Privatisation*, assesses the many challenges and opportunities for private investors in the water sector throughout the world. Key features include:

- an examination of regulatory issues and conditions;
- entry strategies and development scenarios;
- risk assessment in private sector water companies;
- case studies of existing projects;
- strategies for attracting private initiative and capital; and
- analysis of different approaches to water privatisation.

Given the need for private participation in the water sector, this timely report delivers the information required to plan effective investment strategies for all those considering market entry. Companies and investors already active will benefit equally from the range and quality of strategic intelligence provided in *Worldwide Water Privatisation*.

The report provides nine detailed case studies from

around the world in which private initiative and capital have been harnessed, from the background to each project, through its evolution and finance strategies, to the political and regulatory challenges faced. Ranging in size from \$17m to \$4bn, the case studies include:

- award winning large-scale water and sanitation concessions in Argentina;
- organising a BOO scheme in Australia;
- using a lease contract in Guinea;
- managing local sources to finance a BOT treatment plant in Malaysia;
- using multiple multistage contracts in Mexico;
- structuring a large project with host country guarantees in Turkey; and
- privatising assets in the UK.

Urban Water Management: French Experience Around the World. Edited by Dominique Lorrain. Available from Ed. Hydrocom 1997, 38 rue de Villiers, 92532 Levallois Perret, France. 120FF; paperback; 290 pp; ISBN: 2-9509023-2-4.

Urban amenities are becoming a serious problem at the end of this century and probably for some decades so long as the population surge has not been absorbed in the emerging economies. Fifty years ago, there were three billion people on Earth and water was considered an abundant gift of Nature. Population growth and pollution have put an end to those times. So how can we provide sufficient amounts of this basic necessity at acceptable cost to adequate health standards?

The author argues that the answer to the challenge of urban living is largely dependent on the resources of large private companies, so that we must invent a new framework for collective action, regulation of monopoly markets, contract law, and public service outlook.

The book focuses on important, though intangible, economic and institutional factors. It starts in France, with its long history and wide range of different situations. It goes on to examine several cases in the five continents—Latin America, Africa, Asia, Australia, and Europe. From these comparisons, it draws lessons which should help decision-makers attempting this kind of experiment

new products and companies

EA ANNOUNCES NEW POLLUTION MONITOR SCHEME

The Environment Agency of England and Wales has announced plans to establish a rigorous assessment scheme for pollution monitoring equipment. Unlike schemes in other countries, the Agency's Monitoring Certification Scheme (MCERTS) will be based on international standards.

The scheme will ensure certified instruments provide regulators and businesses with the best possible information about emissions from industrial processes, and will also give UK instrument manufacturers a competitive advantage in international markets.

It is expected to take eight months to finalise instrument performance standards and prepare standards for the organisations that will conduct the testing of instruments. These will be published by the Agency.

MCERTS will be launched in Spring 1998 with the Sira Test and Certification appointed to operate it for the Agency for an initial period of three years. The National Physical Laboratory and AEA Technology will offer laboratory and field testing services.

INNOVATIVE PARTNERS DEVELOP FIRST IN-MAINS WATER QUALITY MONITOR

A new partnership agreement has been signed between Bewater Spectrascan and Siemens Environmental Systems Ltd to jointly develop the first range of In Mains Water Quality Monitors. This new agreement will see the development of new 'state of the art' technology allowing water companies to continuously monitor water quality within the pipeline, ensuring consistent delivery throughout the mains infrastructure.

The new hi-tech water quality monitors are based on Siemens CENSAR® (Chemical Environmental

NEW PARTECH SENSORS PROVIDE COST-EFFECTIVE ON-LINE MEASUREMENT

New infrared and ultrasonic sensors from Partech Instruments provide robust and accurate measurements of suspended solids and turbidity for a wide range of water quality monitoring applications.

The Partech System consists of two main parts—the wall-mounted, environmentally-sealed 7100 controller and the robust epoxy resin sensor. A choice of four sensors is available to suit different monitoring applications. The sensors use the infrared or ultrasonic attenuation principle to monitor the changing amount of solids in the effluent.

Maintenance of the new package is straightforward, requiring only period cleaning of the sensing surfaces.

The 'brain' of the system is the highly reliable Partech 7100 controller, which is IP65 rated to ensure its practicality in all weather conditions. The 7100's microprocessor control ensures that it is exceptionally user-friendly from installation, commissioning and configuration, through to operation and maintenance. The wall laid out control panel provides simple yet comprehensive access to system functions such as calibration, and allows users to use to reconfigure the 7100 in seconds.

Further information: Sharon Parker, Partech (Electronics) Limited, Charlestown, St Austell, Cornwall, PL25 3NN, UK. Tel.: +44 (0)1726 74856; Fax: +44 (0)1726 68850; E-mail: sharon@partech.co.uk



new products and companies ■

Sensor Arrays) technology and Biwater Spectrascan's recently launched Spectralog data logger. Designed to register water quality within the mains at predetermined timed cycles. The new monitor provides detailed information concerning water quality including chlorine levels, pH, conductivity, temperature, Redox and dissolved Oxygen. This allows operating companies to closely monitor water quality and take compensatory action accordingly, ensuring consistent quality of water deliver to consumers at optimum cost to the producer.

Data is collected from the in-mains monitor using a modified version of Biwater Spectralog data logger. Spectralog uses a number of advance telemetry communications options allowing 24-hour remote monitoring of water quality. Operatives can also collect data in the field

using hand held terminals and download information accordingly.

Multiplexed input channels will allow water quality parameters to be monitored using the same Biwater Spectralog data logger, monitoring flow and pressure for leakage and DG2 requirements.

The sensor within the heart of the monitor will use the CENSAR® chip. Using thick film technology, the chip was originally supported by the Link Molecular sensors programme sponsored by the Department of Trade and Industry in the UK.

NEW ULTRASONIC LIQUID MEASUREMENT RANGE FROM PULSAR

Pulsar Process Measurement has announced a new range of ultrasonic liquid-level measurement

pump controllers.

The Pulsar*ultra* range offers accurate, non-contacting control from two to six pumps, plus alarms, all providing maintenance-free, fit-and-forget performance. The pump control software has an easy-to-use setup programme which prompts the user at each stage. There's a choice of integral or remote programming and the specification includes two way digital communications.

All units also incorporate Pulsar's 'DATEM' (Digital adaptive Tracking of Echo Movement), and entirely new digital technique to discriminate between competing echoes from pipes, pumps or other obstructions. User-definable control relay set-points ensure maximum control versatility.

These units are available in a choice of wall mount, panel mount,

REGIONAL WATER AUTHORITY TO INSTALL GREY WATER RECYCLING SYSTEMS TO COMBAT UK WATER SHORTAGE

- New system will halve domestic water consumption;
- First grey water recycling system to be installed by a Water Company.

South Staffordshire Water has responded positively to the UK's increasingly mismatched water supply and demand policy by investing £500 000 in a groundbreaking new system for recycling wash water in homes and businesses.

Michael Burton, inventor of the system and now Managing Director of Aquasaver UK, says he is delighted that the positive involvement of South Staffordshire Water will enable the Aquasaver system to be marketed and installed, nation-wide and throughout Europe.

Aquasaver works by cleaning water from wash basins, baths and showers and storing it for safe re-use in non-contact applications such as toilet flushing, machine washing and watering the garden. It is easily integrated into the internal plumbing of a home or business. Appliances draw on clean, recycled water when it is available but automatically switch to mains supply when the holding tank is empty. Cross contamination with the drinking water supply or washing facilities is impossible because the delivery system is sealed off from mains water supply.

As 33% of water used in homes is flushed down the toilet and only 3% is used for food and drink preparation, the savings offered by grey water recycling are not only environmentally responsible but financially substantial; independent test homes have shown a reduction in an average family's water bill of approximately 50%. Reductions of up to 40% are expected in hotels and other high water consumption commercial businesses.

Further information: Aquasaver UK, Tel.: +44 (0)1288 354425.

or 19-inch rack mount, using enclosures that combine attractive weatherproof housings with practical features such as lit LCD displays, separate writing compartments and knockout cable entries.

Further information: Keith Flint, Pulsar, Tel.: +44 (0)870 603 9112; Fax: (0)870 6039 114; E-mail: info@pulsar-pm.com

SMALLWORLD CLEANS UP SEWER MAINTENANCE WITH SEWMAP

SEWMAP is a computer-based system which runs digitised CCTV images of a sewer on powerful Geographical Information System (GIS) platform. It enables operators to monitor sewers and analyse their condition more effectively by referencing their geographic position on the network.

Regular monitoring and maintenance of a sewer network is expensive and often impossible, due to safety and accessibility constrictions so CCTV video footage is often used to analyse the sewer network. But

viewing each tape is time-consuming as it is also difficult to pinpoint specific areas of a pipe.

The combination of Smallworld's GIS with Videoroute from Survey and Development Services (SDS), means that water companies can convert standard CCTV footage into digital data, and then view it on the GIS platform.

Further information: Pamela Small, Smallworld Systems, tel.: +44 (0)1223 460199; E-mail: pamela.small@smallworld.co.uk

WILLAND UV LAUNCH NEW EFFLUENT TREATMENT SYSTEM

Willand UV Systems Ltd has launched a range of new effluent treatment systems.

Unveiled at the recent Iwex '97 exhibition, the modular channel systems offer treatment units which can be tailored to an operator's individual requirement. Utilising either additive low pressure or medium pressure UV sources.

The systems feature automatic cleaning, UV monitoring and flow control, with Medium Pressure UV lamp system offering UV dose control as standard.

Willand a BSEN 9001 certified company has 16 years experience in the design of water treatment equipment. Each of their packages is supported by national service agreements, giving the operator the treatment security required for compliance with EC Bathing Directives.



If you would like to contribute to, or comment on the production of *AQUA News*, please contact: Miss Victoria Elena Paredes, News Editor, *AQUA*, IWSA, 1 Queen Anne's Gate, London SW1H 9BT, UK. Tel: +44 (0)171 957 4567; Fax: +44 (0)171 222 7234; E-mail: AQUA@dial.pipex.com