

NEW!

# LATEST INTERNATIONAL BEST PRACTICE TECHNIQUES IN WATER LOSS MANAGEMENT

Do you know  
how much water  
losses are costing you?  
Not all water losses are  
this obvious.

Up to a third of system input  
can be lost through leaks.  
This is probably costing  
you money.

## INSIDE:

Software and  
manuals with the  
latest secrets for  
managing water  
losses.



Wide Bay Water  
Corporation



Queensland Government  
Environmental Protection Agency

# IWA WATER LOSS TASK FORCE MEMBER RELEASES SERIES OF WATER LOSS AND PRESSURE MANAGEMENT MANUALS

In February 2004, Internal Water Association - Water Loss Task Force Member, Tim Waldron from Australia released a comprehensive series of 10 manuals discussing the latest international techniques in water loss and pressure management.

The Managing and Reducing Water Losses from Water Distribution Series has been developed by the Queensland Government and Wide Bay Water Corporation based on the latest IWA Water Loss Task Force techniques and ideas.



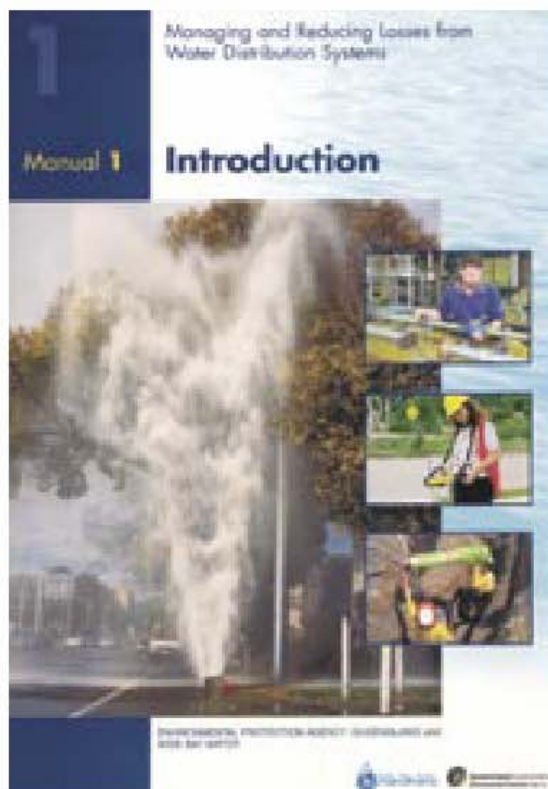
Key IWA Water Loss Task Force members, Ken Brothers from Canada, Allan Lambert from the United Kingdom, David Pearson from the United Kingdom and Ronnie McKenzie from South Africa were key collaborators in the development of these tools for the water industry.

The manuals cover a wide range of issues and subjects including;

- The Economics of Water Loss
- The latest techniques in water auditing and water accounting
- Advanced pressure management and
- How to track down apparent losses and increase business revenues
- The latest technology for finding leaks
- Sophisticated PRV selection techniques

The manuals are packed with a wide range of 'step by step' checklists, best practice engineering procedures and practical case studies which will help busy water managers to create successful water loss management activities in their water business.





## MANUAL 1 INTRODUCTION TO MANAGING AND REDUCING WATER LOSSES FROM WATER DISTRIBUTION SYSTEMS

This manual provides water practitioners with a detailed overview of the issues that surround managing and reducing water losses from water distribution systems.

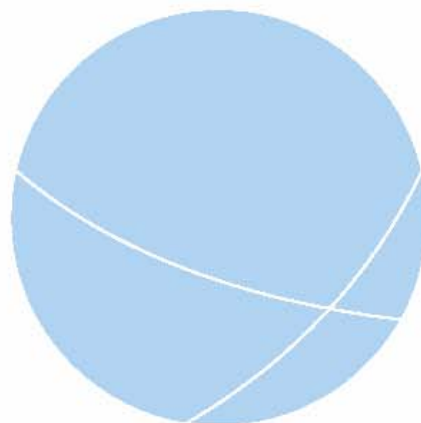
If you are starting the process of managing losses in your network then this manual is an important reference point. In an easy to read format it provides a detailed overview which discusses the issues of demand management, water loss management

and pressure control. Readers are given key tools such as:

- A ten step process for reducing and managing water losses.
- A detailed list of relevant reference points including international websites.
- A list of technology providers in the Australasia region.

This manual is based around the principles developed by the International Water Association's Water Loss Task Force and provides readers with an easy to follow summary of key terminology and appropriate strategies which can be implemented in your business immediately.

**Your Investment = 60 Euro**



# WATER LOSS MANUALS

## MANUAL 2 WATER AUDITS

One of the first steps in implementing a successful water loss management program is to understand where all the water in your distribution system is going.

The Water Audit manual provides a detailed blueprint to assist water managers to undertake a water audit of their entire distribution system. By following the advice contained in this manual water managers will discover how to undertake an accounting process which accurately identifies:

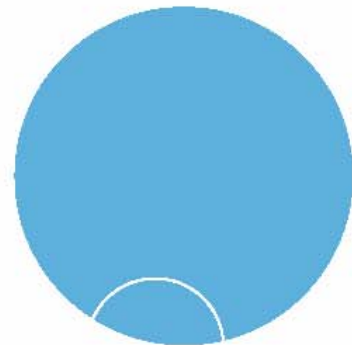
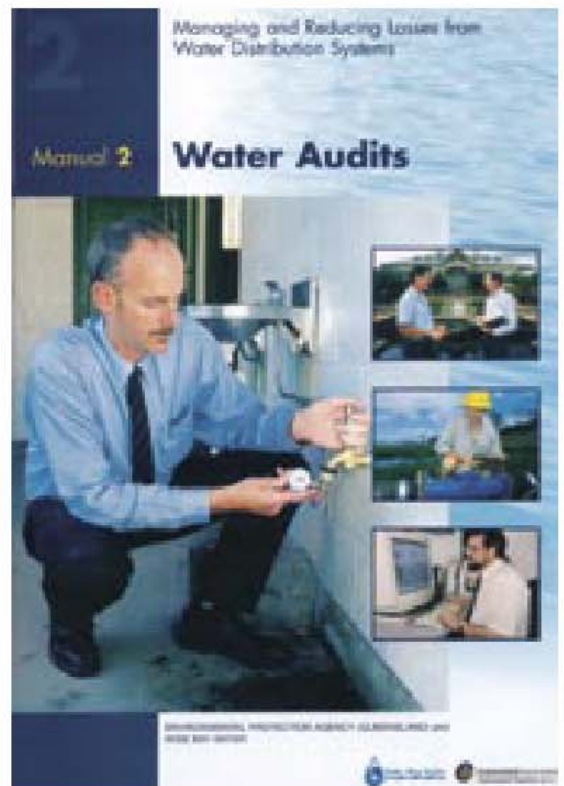
- The total volume of water entering the system.
- The amount of authorised consumption (billed, unbilled and un-metered).
- Water losses (apparent and real).

This manual:

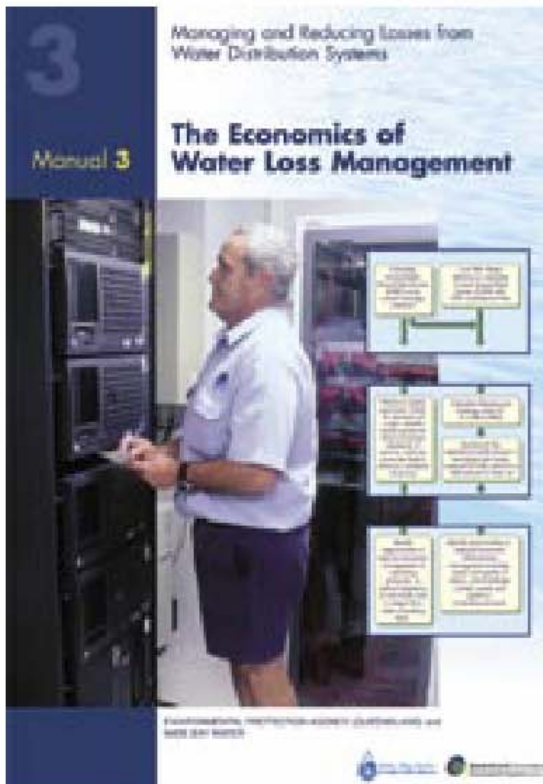
- Is packed full of advice from experienced water managers around the world.
- Includes practical checklists and sheets to make the process easy.
- Contains important information on customer water auditing.

If your water business wants to account for water more accurately then this is a manual that you need to have in your library.

**Your Investment = 115 Euro**



# WATER LOSS MANUALS



## MANUAL 3 THE ECONOMICS OF WATER LOSS MANAGEMENT

If you want to identify which water loss management strategies are cost effective in your business then this manual contains all of the information you need.

This manual gives you a range of tools, checklists and formulas that help you to identify:

- The economic level of leakage in your water supply network.
- What water loss interventions are appropriate for your network.

- How often you should be implementing active leakage control programs in your water network.
- Techniques for correctly evaluating economic benefit.
- How to justify water loss programs to financial managers and accounting staff.
- How to correctly report the economic benefits of your demand management activities.

Whilst the manual focuses on economic evaluation, it has been written from an engineering perspective and provides a useful tool to assist water managers to gain support for demand management programs from financial staff and non-technical CEO's.

**Your Investment = 115 Euro**

**WATER  
EFFICIENCY  
MAKES GOOD  
BUSINESS  
SENSE**

# WATER LOSS MANUALS

## MANUAL 4

### ESTABLISHING PRESSURE MANAGEMENT ZONES AND DISTRICT METERED AREAS: THE TOOLKIT

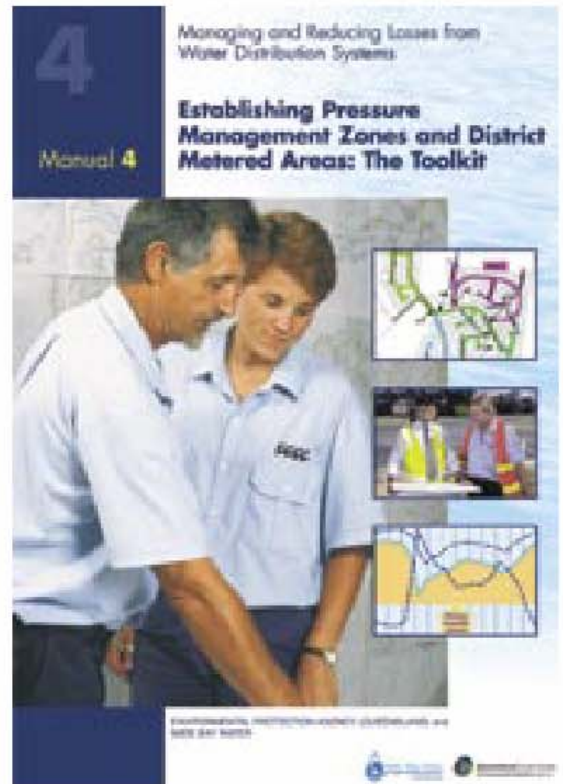
Throughout the world, many water businesses are discovering that a key demand management tool is pressure management.

This manual provides water managers with the information and tools to effectively establish pressure management zones and district metered areas which put them in control of their water network. Issues discussed include:

- Designing district metered areas.
- Measuring water flow accurately.
- Understanding the pressures that are operating in your system.
- Using pressure management to minimise water loss whilst maintaining high customer service standards.
- Zero Pressure Testing.
- Identifying the critical pressure point in the network.
- Using pressure management to increase asset life and reduce burst frequency.

This manual is packed with a range of important checklists and other practical tools which will assist you as you implement your pressure management strategies.

**Your Investment = 115 Euro**



**HAVING  
TROUBLE  
SECTORISING YOUR  
NETWORK?  
GET SOME  
SOFTWARE TO  
HELP. SEE PAGE**

**14**

# WATER LOSS MANUALS

## MANUAL 5

### ADVANCED PRESSURE MANAGEMENT AND PRV SELECTION

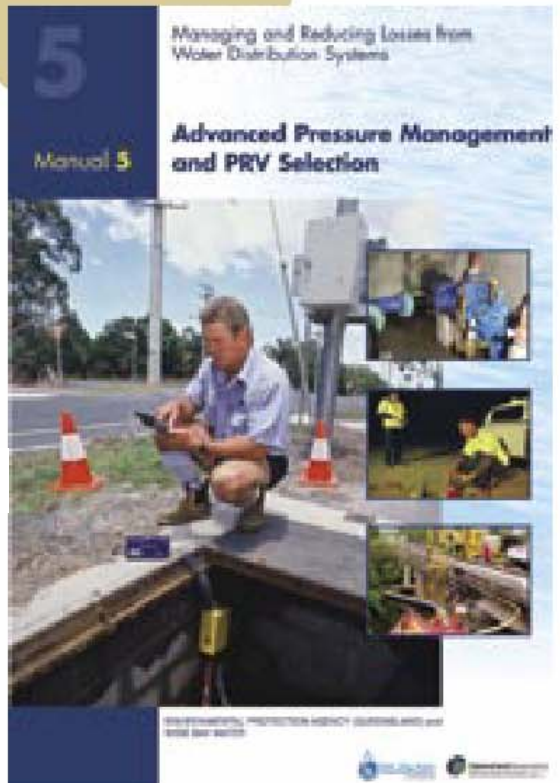
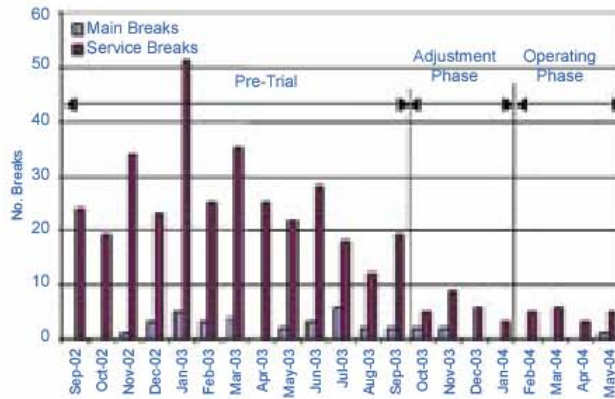
The advanced pressure management and PRV selection manual provides water industry professionals with the latest information on how to implement effective pressure management strategies to reduce water loss and cut burst frequency.

Key topics covered in this manual include:

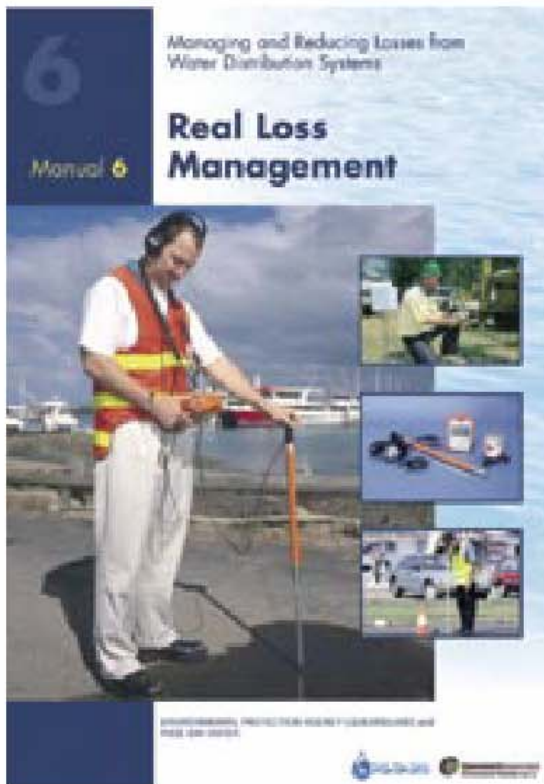
- Managing customer expectations.
- Using pressure management to reduce consumer consumption.
- Flow Modulated Pressure Control.
- Using computer software to accurately predict water and money savings from pressure management.

Around the world water professionals are beginning to discover the significant benefits in asset management possible through effective pressure management. This manual contains the latest information available and is something which no modern water manager should be without.

**Your Investment = 115 Euro**



# WATER LOSS MANUALS



## MANUAL 6 REAL LOSS MANAGEMENT (Leak Detection and Control Methodologies)

If you are in the process of implementing strategies and policies to manage real losses in your water business then this manual is a “must have” reference point. It has been written by a team of practitioners that have implemented practical leakage detection and repair programs throughout the world.

The Real Loss Management Manual covers a myriad of key topics including:

- Managing and measuring real losses.
- Secrets behind successful active leakage control programs.
- How to use the latest equipment to enhance the outcomes of your active leakage control programs.
- Managing and designing infrastructure to minimise real losses.
- Creating a culture of operational excellence.
- Enhancing the speed and quality of your repair programs.

This manual also includes a detailed 50-page catalogue listing key technical data and comparison information for leak detection equipment that is currently available. If you are in the process of purchasing equipment for your business then this catalogue is an important reference point which will save you time, effort and money.

**Your Investment = 115 Euro**

**CAN'T FIND  
LEAKS IN YOUR  
SYSTEM?  
THIS MANUAL  
GIVES YOU THE  
SECRETS TO  
SUCCESS!**



# WATER LOSS MANUALS

## MANUAL 7

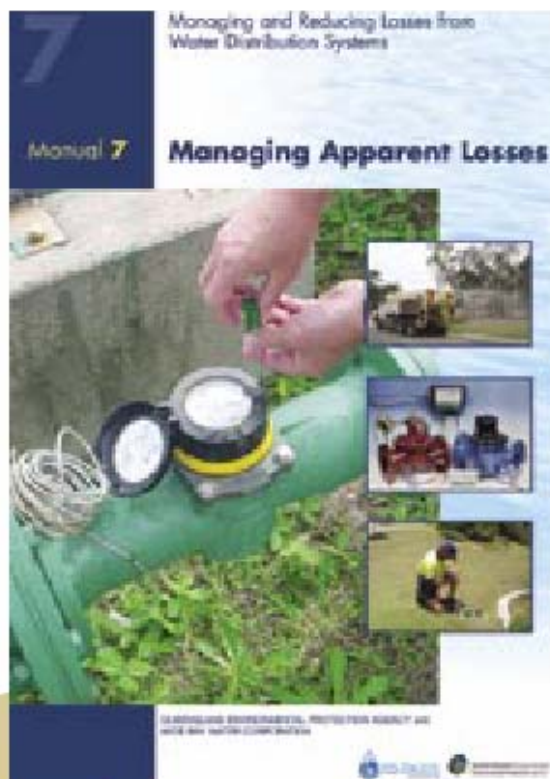
### MANAGING APPARENT LOSSES

This manual provides water managers with a range of strategies to:

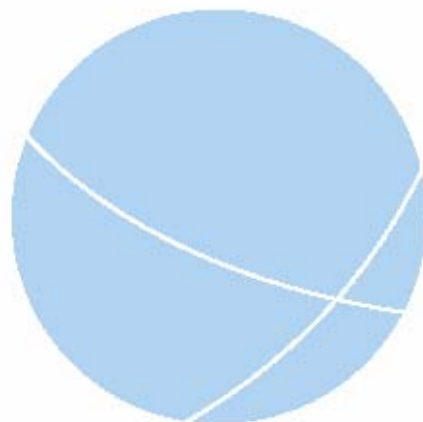
- Reduce water theft.
- Ensure meter fleets record water usage accurately.
- Ensure all customers pay for the water they use.

If your water business is looking to better manage data collection systems and minimise the amount of water which you are not receiving revenue for, then the material contained in this manual may be of importance.

**Your Investment = 60 Euro**



ARE YOU  
BEING PAID  
FOR ALL THE  
WATER YOU  
PRODUCE?



# WATER LOSS MANUALS

## MANUAL 8

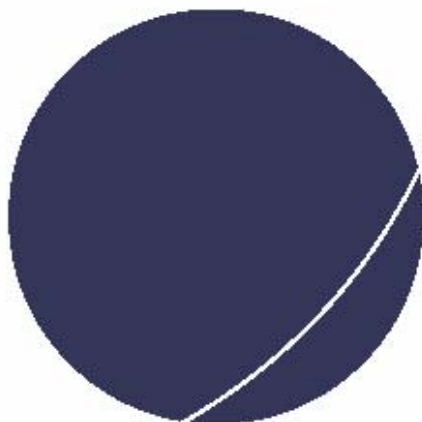
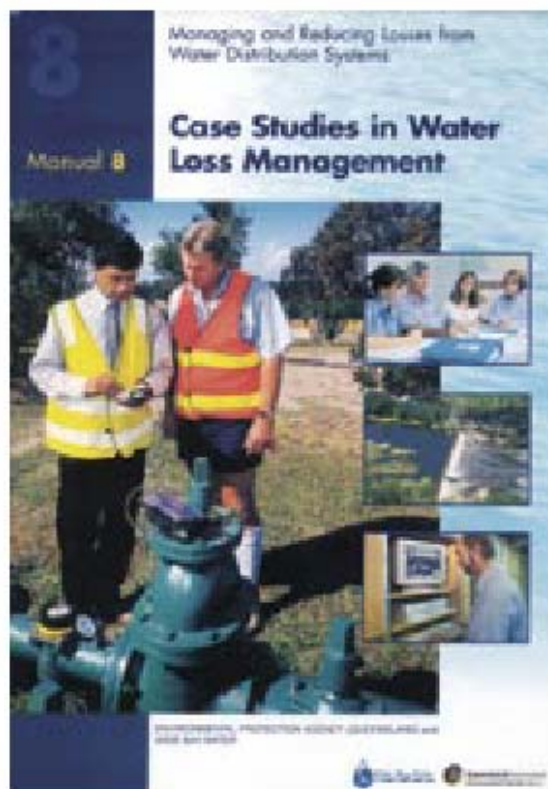
### CASE STUDIES IN WATER LOSS MANAGEMENT

This manual is packed with more than 90 pages of practical case studies of water businesses that have implemented water leakage and demand management projects.

These case studies have been gathered from countries throughout the world including Japan, United Kingdom, South Africa and Australia.

Access to these case studies gives water managers the opportunity to tap into international best practice experience without leaving their desks.

**Your Investment = 79 Euro**



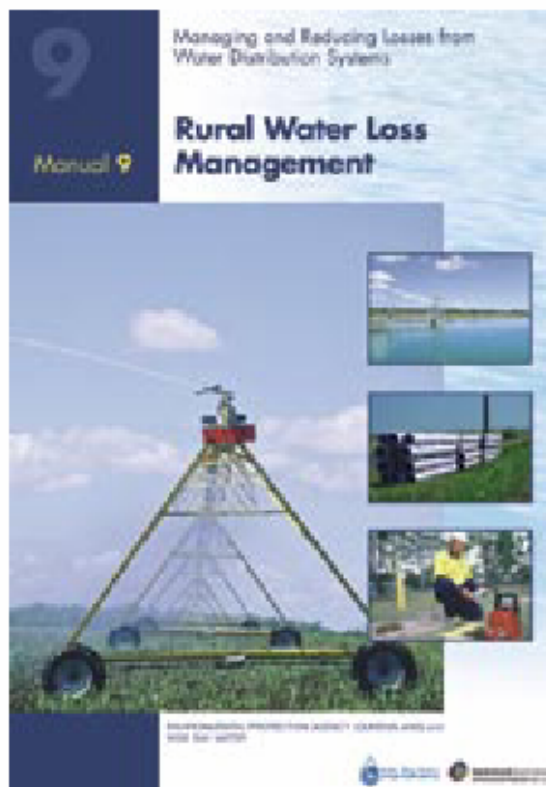
## MANUAL 9 RURAL WATER LOSS MANAGEMENT

Small rural water businesses face the same problems of water loss as experienced by their city cousins. However, typically, the time and resources to deal with these issues are less.

This manual provides a simply “recipe book” solution suitable for small water businesses with less than 3000 water connections. The information comes with easy to follow checklists, graphs and maps, and uses equipment which is available in any water company. If you are a CEO or a water manager in a small water business this is a must-have guide.

The manual also touches on on-farm water losses and general water efficiency – providing a basis for water managers to work with the farming community to reduce rural water losses.

**Your Investment = 120 Euro**



# WATER LOSS MANUALS

## MANUAL 10

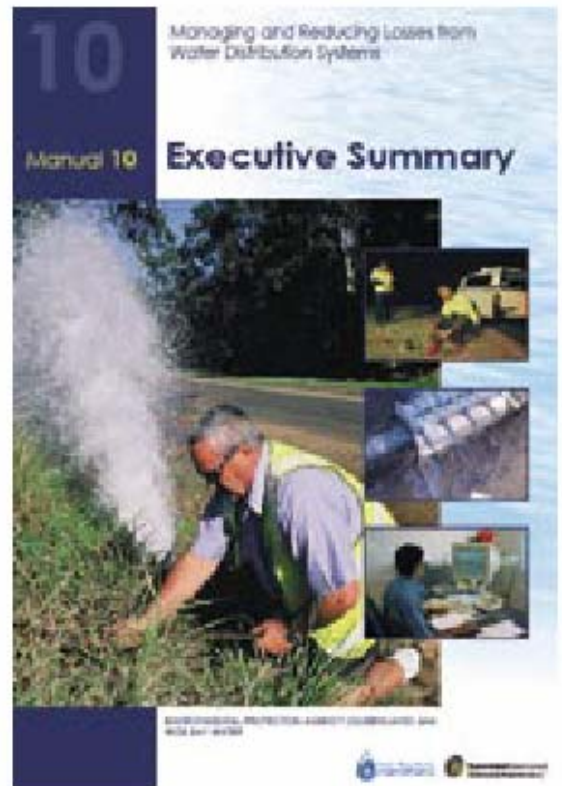
### EXECUTIVE SUMMARY

This manual provides a comprehensive overview of the key issues surrounding water losses, and a summary of the techniques and principles for managing and reducing losses from distribution systems, as detailed in the first nine manuals.

Key action plans from the other manuals have been incorporated into one easy-to-use section in a format that provides a quick reference guide and checklist for staff working in the field. A detailed list of software for calculating losses and determining appropriate actions is also included.

This is a one-stop-shop for busy CEOs and managers wanting a greater understanding of the issues and solutions, to make appropriate decisions for their water business.

**Your Investment = 60 Euro**



**MANAGING  
WATER LOSSES  
MAKES GOOD  
BUSINESS SENSE!  
SEND FOR YOUR  
SOFTWARE &  
MANUALS  
TODAY.**

# THE CONTRIBUTORS

## Tim Waldron

CEO – Wide Bay Water Corporation

*Project Chairman and Principal Author of these Manuals*

Tim is widely recognised as Australia's foremost expert on demand management, leakage control and pressure management. As project manager, he has been the driving force in the compilation of this series of manuals – Managing and Reducing Losses from Water Distribution Systems.



Tim has more than 30 years experience in the water and wastewater industry. Born and educated in England, Tim worked for North West Water Authority U.K. (United Utilities) for more than 20 years, including being responsible as Divisional Engineer for Water Demand Management and Specialist Engineer for Northern Division.

His specialist knowledge in water demand management led to his secondment to the British Foreign Office as a technical advisor for developing countries. He subsequently became the United Nations Technical Representative for the South Pacific for United Nations Development Program and the World Health Organisation. Tim has given numerous technical papers and presentations around the world and is an invited speaker by many universities on the topic of specialist water engineering and management including water demand strategies. He has advised governments and water utilities in many countries including U.K, Australia, New Zealand, Solomon Islands, Papua New Guinea, Vanuatu, Tonga, Greece, Columbia, South Africa, Cambodia, America, Canada, Mexico, Hong Kong, Japan, China, Vietnam and Thailand.

For the past ten years, Tim has led Wide Bay Water Corporation as Chief Executive Officer in a range of innovations including: creating Queensland's first local government-owned corporation, implementing Australia's National Award winning 100% Wastewater Recycling Scheme, and winning the National Australian Water Association Environmental Award for his achievements in Water Demand Management. Tim was also presented with the Prime Minister's Environmental Award for his work in Demand Management on behalf of Wide Bay Water Corporation.

# WHO IS THE INTERNATIONAL WATER ASSOCIATION WATER LOSS TASK FORCE?

The Water Loss Task Force is a special interest group established by the International Water Association to develop methodologies and share ideas on water loss issues and management.

The Water Loss Task Force comprises more than 70 representatives from 19 countries, who work on some of the largest water loss contracts and projects in the world.

The taskforce has developed a common water balance, terminology and metric system for undertaking water loss activities which works throughout the world.

# THE CONTRIBUTORS

## Allan O Lambert

Allan has more than 30 years experience in the water industry and is recognised as a world leader in water demand management. He was the leader of the first International Water Association (IWA) Water Loss Task Force from 1996 to 2000, and has produced numerous international papers and publications on leakage management.

Allan has held positions as: President, British Hydrological Society; Technical Secretary, UK National Leakage Control Initiative; Special Adviser, House of Commons Environment Committee; and consultant for World Bank and other international funding agencies.

Allan represents Wide Bay Water as a specialist consultant and provides training and leakage management software, including FASTCELL, to facilitate the introduction of IWA methodologies.



## Ronnie McKenzie

Ronnie has wide experience in Water Demand Management, Hydrology, Water Resource Planning, Management and Operation, and has been involved in the analysis of many water resource systems throughout Southern Africa. Over a 15-year period he provided specialist support to the South African government for the development of the Royalty Hydrology for the Lesotho Highlands Water Project.

He introduced the BABE methodology and principles of advanced pressure control to South Africa, and was responsible for the introduction and development of the latest Water Demand Management analysis software including SANFLOW, PRESMAC, BENCHLEAK, ECONOLEAK and AQUALIBRE™. He has written and co-written more than 100 publications and courses on Water Resource Management and Water Demand Management. Ronnie's South African Water Demand Management company is represented by Wide Bay Water in Australia and New Zealand, with partnership arrangements in other South East Asian countries.



# THE CONTRIBUTORS

## David Pearson

David has more than 33 years experience in the water industry, with expertise in the development of loss reduction strategies and the implementation of effective leakage management controls and monitoring. His main activities have been involvement with leakage reduction strategies in Eastern Europe and Asset Management Systems in Canada. He has a strong focus on both the economics of leakage control and the control of apparent losses.



During the 1995/96 UK drought, David drove a four-year leakage strategy that saw losses halved, which in real terms was a reduction of more than 450ML/d. He was a member of the National Leakage Policy Group and has worked on several national research projects. His experience includes working with Tim Waldron developing the first UK Flow Modulated Pressure Control system in the early 1980s.

## Kenneth J Brothers

Ken has more than 30 years of hands-on leak detection experience – including 22 years as a leak detection consultant – and has presented international water loss strategy workshops across North America and Europe.



The Director of Utility Services for the City of Ottawa, Canada, he has been active in several national and international associations including: President, Canadian Water and Wastewater Association; Director and Vice-President, American Water Works Association; and Chair, Atlantic Canada Water Works Association. He is currently a member of the AWWA Water Loss Control Committee and Chair of the International Water Association's Water Loss Task Force. Ken is on the communications and publications committee of the WLTF along with Allan Lambert, Tim Waldron and Malcolm Farley.



# ORDER FORM

## Manuals: Managing and Reducing Water Losses from Water Distribution Systems An initiative of Wide Bay Water Corporation and the Environmental Protection Agency

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