HB 241–2002

Water Management

for Public Swimming Pools and Spas

2nd Edition

Standards Australia

HB 241 - 2002

2nd EDITION

Water Management for Public Swimming Pools and Spas

Standards Australia

Second Edition

Published by Standards Australia International Ltd, GPO Box 5420, Sydney NSW 2001, Australia.

ISBN 0-7337-4881-3

PREFACE

The aim of this Handbook is to provide public swimming pool and spa owners, managers, executives, operators, engineers, designers and authorities with a clearer understanding and appreciation of water quality management.

The information provided by this Handbook will help those responsible for water quality to:

- comply with local regulations
- accurately monitor physical and chemical water properties
- correctly record relevant data
- troubleshoot, locate and correct physical and chemical problems
- produce high quality and good looking water.

This second edition of the Handbook includes detail on recent automatic chemical dosing, systems, further information on chemical testing and a restructure of some of the text.

The author of this Handbook, Alan Stewart, owns and operates a technology and equipment testing service, 'On Site Water', in Victoria. It provides a service to clients in Melbourne and has assisted in the development of guidelines for water quality. He has published a number of books and articles on water management.

Paul Stevenson MIE Aust, CP Eng of Stevenson and Associates Pty Ltd, Greg O'Connell MAppSc, PhD of Biolab Australia Pty Ltd, Ron King and Michael Moore of Australian Spa and Pool Services, Neil Shaw of the NSW Department of Health, and Derek Lightbody of the Victorian Department of Human Services, provided assistance in the compilation of the first edition this handbook.

Revisions and additional material for the second edition:

Tim Batt of USF Stranco Aquatic Pty Ltd provided details of their pool monitoring and dosing systems and particularly the systems used in the Sydney Olympic venues. Warren Thomas of Palintest provided additional information on chemical testing and both Tim Batt and Warren Thomas provided additional details on water chemistry and methods of correcting imbalance. Gary Penfold of the Warringah Aquatic Centre also provided technical advice in a number of areas.

CONTENTS

LIST OF TABLES

CHAPTER 1 INTRODUCTION

Figure 1 — Family fun in a wet deck pool

In Australia there are a large number of public swimming pools and spas, including major aquatic centres, busy gymnasiums and health studios, school and college pools of all capacities, hospitals, infrequently used swimming pools and spas in various accommodation centres and venues like hotels, motels, apartments, clubs, housing groups, retirement centres, and swimming schools using domestic size pools. Generally, if the swimming pool or spa is offered as part of, or as a complete service it is regarded as 'public,' whether fees are charged or not. While their usage patterns, capacity and purpose may vary, public pools and spas have one important thing in common – the need for adequate physical and chemical management of their water quality.

Operating a public swimming pool or spa, whether it's for recreational, teaching or therapeutic use, carries with it a great deal of responsibility. This responsibility is emphasised through current health or human services department regulations which set out the chemical, physical and microbiological water standards that must be maintained.

For effective water quality management, the following factors must be considered:

- venue infrastructure
- water standards and health regulations
- venue engineering
- physical and chemical water analysis.

Other than compliance with local building and engineering requirements, no permit is necessary to design and construct a public swimming pool or spa and there are currently no specifications for swimming pool or spa equipment design or for their operation. There are monitoring services provided by local authorities, usually on behalf of health and human services departments, although these can vary in their effectiveness.

There are no mandatory minimum qualifications for operators and it is left to management to make their own decisions about operator skills. Clearly, there is a need for minimum operator skills and systems operation design parameters to be outlined and enforced by responsible industry bodies and appropriate government health agencies.

The effects of incorrect water chemistry or malfunctioning equipment that result in physical, chemical or microbiological problems are the direct liability of the operating organisation, its management and its

HB 241-2002 Water Management for Public Swimming Pools and Spas