Aquatic Codes and Regulations, Part I

by Alison Osinski, Ph.D.

Are you familiar with the myriad of federal, state, and local health and safety, environmental, building, and administrative codes that effect aquatic facility design and operation? Do you know where to find and procure copies of these codes, or where to obtain assistance in complying with the regulations? This two-part article will attempt to familiarize aquatic professionals with some of the codes, design specifications, guidelines, and public laws that regulate the way pools are built and operated in the United States.

State Bathing Codes

State health and safety, administrative, building, general industry safety orders, and education codes, pertaining to pools have been compiled into documents generically termed "bathing codes" in all of the 50 States with the exception of Mississippi and Kansas. County and municipal bathing codes have also been enacted in some areas of the country. Bathing codes are distributed free, or available at a nominal charge, to pool owners, builders, operators, and service technicians from state and/or county boards of health. The codes are compiled and distributed widely to assist the regulatory agencies in ensuring the public health and safety in pools and other recreational waters. Many states also adopt by reference other building, plumbing, and electrical codes, and recommended industry guidelines. Regulations may govern application and permit requirements, equipment specifications, acceptable water quality parameters, lifeguard qualifications and supervision requirements, chemical storage, handling, and dispensing methods; signage requirements, and record keeping procedures.

Some state codes are more comprehensive than others, and more up-to-date with current trends and common acceptable practices of the aquatic industry. Codes are not uniform across the states or even within a single state. When conflict arises, the strictest code should be followed.

In most states, bathing code violations are considered misdemeanors, punishable by fines. Most bathing codes give states and local health officials the authority to enforce standards of design and operation at public, semi-public and special use pools, and to close down an aquatic facility if the facility poses a threat to the public's health.

National Sanitation Foundation, Standard 50

NSF International is a non-profit educational, research, and service organization whose goal is to promote health, solve problems involving man and his environment, and enrich the quality of life through conserving and improving the environment. Its purpose is to serve as a neutral organization in which business, the public and regulatory agencies can work together to solve problems involving products, equipment, procedures, and services as they relate to the environment and health. NSF develops standards, conducts research, tests and evaluates equipment, and lists products which comply with its standards and criteria. (Contact: National Sanitation Foundation, 3475 Plymouth Road, P.O. Box 1468, Ann Arbor, MI 48106; 313-769-8010)

National Electrical Code, Article 680: Swimming Pools, Fountains, and Similar Installations

The NEC is published by the National Fire Protection Association, and is revised on a regular schedule.

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Hot Off the Blocks

Send in a review of any new technology or equipment that has recently entered the market that might be of interest to other aquatic professionals. Sorry, sales reps and manufacturers, etc. may not evaluate their own product.

Timing Device
Casio Swim Trainer - 800-YO-CASIO
Bouyant Swimsuits (kids)
Floating Swim-Wear, Inc. - 316-788-3649
My Pool Pal - 800-453-9399
Sports Bar
Apple Cinnamon Power Bar - 800-444-5154
CytoBar (cocoa flavor) - 800-225-4831
Sports Drink
Nautilus Plus Thirst Quencher - 800-325-8959
Q.E.M. by Body Glove - 800-678-7873
Water Exercise Equipment
Aquatic Exercise Step (Speedo) - 800-WET-STEP
Aqua Jogger Water Workout Gear (Excel) - 800-922-9544
RIPP Fitness Vest - 503-228-RIPP

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The original NEC was developed in 1897 by insurance, electrical, architectural, and related interests. The purpose of the NEC is the "practical safeguarding of persons and property from hazards arising from the use of electricity". The Code is designed to be suitable for application by regulatory or governmental authorities, and insurance inspectors who have enforcement responsibilities. Article 680 pertains specifically to aquatic facilities. (Contact: Nat'l. Fire Protection Assoc., Batterymarch Park, Quincy, MA 02269; 617-770-3000)

American Public Health Association "Public Swimming Pools: Recommended Regulations for Design and Construction, Operation and Maintenance"

Many state and local health and safety codes are based on this document, the most recent version of which was published in 1981. Publications concerning minimum conditions for design, equipment, and operation of swimming pools and bathing places have been produced by various committees of the APHA since 1925. Even the early documents were used as guidelines by regulating authorities in developing minimum bathing standards to prevent the spread of infection diseases through swimming. Since 1964 a model code has been produced which includes minimum standards pertaining to the design and construction of pools, and standards for operation and maintenance of those pools. The current recommended regulations include guidelines on water quality, recirculation, filtration and disinfection systems, and safety issues. (Contact: American Public Health Assn., 1015 15th St., NW, Washington, D.C. 20005; 202-789-5600)

Part II of this article will appear in the December issue of the PAN.

Aquatic Exercise a Hit in Mexico

Terri Mitchell, the 1992 Aquatic Fitness Instructor of the Year, returned from Monterrey, Mexico, where she co-taught an international course on water aerobics to swimming instructors and exercise instructors. The 8-hour course included lectures on aqua physics, teaching techniques, and anatomy. The practical pool application included choreography, use of equipment, and circuits.

"The Mexican women are becoming more interested in fitness and want to learn more about the benefits of water exercise. Classes are in demand, so instructor training is important for effective and safe classes," stated Mitchell. She also stated that the largest water aerobics class in Mexico consisted of over 65 participants.

Susan Jackson, physical therapist at St. David's Rehabilitation Center (Austin, TX) assisted Mitchell with instruction from the pool deck, as well as with Terri's Spanish. Both Mitchell and Jackson have been invited back next Spring to present additional training for special population. Congratulations, Terri and Susan.

About the Authors

Special thanks to featured authors **Ginny Reister** and **Alison Osinski**. Ginny is a consultant in aquatics and rehabilitation. She is currently chairing the AAHPERD Aquatic Council Committee on Aquatic Therapy. Alison is currently in private practice as an aquatic consultant. Her specializations within the field of aquatics include risk management, facility design and renovation, pool chemistry, maintenance and operation, and program development.

Internships

Aquatic Consulting Services is seeking a intern to work approximately 30 hours per week at assigned projects. The internship length can vary between 3 to 12 weeks. Starting and ending dates are flexible. Stipend is $225/week and a daily pool swim pass. Lodging, transportation, travel, and living expenses will not be reimbursed. Working aquatic professionals, or college students majoring in Physical Education or Recreation and specializing in the area of aquatics are eligible. The intern must possess research, writing, word processing, Macintosh computer skills, and a valid driver's license. For more information, or to apply for consideration as an intern, please submit a copy of your resume or C.V., along with the dates you are available, length of internship being requested, and a short explanation of what you hope to learn or get out of the internship experience, to:

Alison Osinski, Ph. D.
Aquatic Consulting Services
3833 Lamont Street 4C
San Diego, CA 92109
619-270-3459

Jobs

There has to be at least one out there. Send your latest job listing to the PAN.

Research $

The Aquatic Council of AAHPERD is developing a research fund to be used to support basic, applied, and service research projects in aquatics. Donations should be made out to the AAHPERD Aquatics Council Research Fund and sent to Ann Weiser, 1109 McCormick Street, Greensboro, NC 27403.

Aquatic Codes and Regulations, Part II

by Alison Osinski, Ph.D.

(Editor's Note: This was going to be a two-part article, but because of the length and the importance of the article, it has been extended to a three-part article.)

There are many codes and regulations that aqautic professionals needs to know. This second of a three-part article will attempt to familiarize aquatic professionals with some of the codes, design specifications, guidelines, and public laws that regulate the way pools are built and operated in the United States.

Centers for Disease Control "Suggested Health and Safety Guidelines for (Swimming Pools, Spas and Hot Tubs, Recreational Water Flumes...)"

The first several "Suggested Health and Safety Guidelines" texts was published in 1959, by the U.S. Department of Health and Human Services, Centers for Disease Control. The texts were prepared for public health workers and swimming pool operators to help develop training programs and prevent the spread of disease through recreational waters. Texts include information on design, construction, operation maintenance and effect on disease control and safety procedures. The CDC texts are frequently adopted by reference, in part or whole, into state health and safety codes. (Contact: CDC, U. S. Department of Health and Human Services, 1600 Clifton Road, Atlanta, GA 30333; 404-639-2317)

IAPMO Uniform Swimming Pool, Spa and Hot Tub Code

A committee of the International Association of Plumbing and Mechanical Officials composed of inspectors, code administrators, mechanical engineers, pool contractors, and equipment suppliers have developed installation and product standards to improve public health and safety. Standards include definitions, quality and weight of various materials, general requirements for private and public pools, swimming pool heaters and vents, and gas fuel piping.

National Spa & Pool Institute (NSPI) Standard 1 - 7

NSPI is the premier trade association for the pool and spa industry. Founded in 1956, today it has over 4,200 members active in over 70 local chapters throughout the U.S. Its purpose is to raise industry standards and ethics; to expand the interest and use of swimming pools, spas and hot tubs; to achieve uniformity in federal, state and local regulations applying to pool operation; and to establish uniform design, construction and equipment standards. The goal of NSPI is to promote the industry through effective governmental relations, consumer awareness, and technical problems.

NSPI has developed standards for public pools, public spas, permanently installed and portable residential spas, above-ground and in-ground pools, and workmanship standards. Some NSPI standards are also listed with the American National Standards Institution (ANSI), a national standard writing agency. (Contact: NSPI, 2111 Eisenhower Ave., Alexandria, VA 22314; 703-838-0083)

World Waterpark Association "Considerations for Operating Safety"

WWA is the trade association for the waterpark industry, representing water theme parks and their suppliers of goods and services. The WWA provides services to members by promulgating information pertinent to the interests of the industry. Guidelines have been developed on signage, supervision, staffing and recruiting, engineering and construction, performance considerations of various water attractions, record keeping, safety rules, inspections, and emergency procedures. (Contact: WWA, P.O. Box 14826, Lenexa, KS 66214; 913-599-0300)

National Swimming Pool Foundation (NSPF) "Design Compendium"

NSPF is a non-profit, educational, safety and research foundation established in 1964 to promote improvement in pool and spa safety, operation, and management. Many projects have been undertaken or funded by the NSPF including implementation of the nationally recognized Certified Pool-Spa Operator training program, research on drinking and diving, and a compilation of a competitive pool design compendium. The Design Compendium is a summary of standards for competitive swimming, synchronized swimming, water polo, and diving pools. Standards from FINA, U.S. Swimming, U.S. Water Polo, U.S. Diving, U. S. Synchronized Swimming, NCAA, and the National Federation of State High School Athletic Associations are included in the document. (Contact: NSPF, 10803 Gulfdale, Ste. 300, San Antonio, TX 78216; 210-525-1227)

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Hot Off the Blocks

Send in a review of any new product that has recently entered the market that might be of interest to other aquatic professionals. Sorry, sales reps, manufacturers, etc. may not evaluate their own product.

Water Exercise with AquaCircuit

AquaCircuit is the ideal exercise program for non-swimmers and swimmers seeking a self-paced, user-friendly, and balanced water fitness program. Two complete programs are available each having 14 exercise panels illustrated by universally recognized body actions. For more information, call Gwen Robbins at 317-285-5171.

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Council for National Cooperation in Aquatics (CNCA) guidelines

The mission of CNCA is to enhance the field of aquatics through the cooperation of national organizations and concerned individuals through joint meetings, sharing and discussing common problems, working cooperatively on special projects of common interest, by promoting research and conferences related to aquatics, and by meeting the informational, interaction, and development needs of aquatics professionals. CNCA members include over 20 national aquatic organizations as well as individual aquatic professionals. In recent years, guidelines have been developed on a variety of topics including preschool aquatic programs, diving safety, SCUBA, and above-ground pool safety.

OSHA 29 CFR 1910.1200: Hazard Communication Standard

The purpose of the Standard is to ensure that hazards of all chemicals either produced in or imported into the U.S. are evaluated, and that information concerning the potential hazards and appropriate protective measures, are communicated to employers and employees who come into contact with chemicals in the workplace. The hazard communication standard requires that employers develop, implement, maintain and submit to the designated authority, a written emergency response business plan which describes: potential hazards, proper labeling of containers, provisions for collecting and maintaining material safety data sheets (MSDS), an employee information and training program, and procedures for informing outside contractors or individuals entering the workplace of the presence of hazardous substances. The Standard requires that chemicals be properly stored in their original containers, be legibly labeled in English, and show appropriate protective warnings. Material safety data sheets must be posted for all chemicals stored on the premise, and readily available to concerned employees during all work shifts.

An employee information and training program must be developed, which includes provisions for informing employees about the OSHA Standard procedures that will be used to detect the presence of hazardous substances, and methods employees can take to protect themselves, the physical and health hazards of exposure, emergency procedures for accidental exposure, how to read and understand MSDS sheets and warning labels to determine hazards, proper use of protective gear, and specific procedures the employer has taken to protect employees. Training must be updated yearly, whenever new chemicals are introduced into the workplace, or an employee is reassigned to work with new hazardous materials. (Contact: OSHA Publication Office, 200 Constitution Ave., NW, Room N-3101, Washington, D. C. 20210; 202-523-9667).

(**About the Author:** Alison is currently in private practice as an aquatic consultant. Her specializations within the field of aquatics include risk management, facility design and renovation, pool chemistry, maintenance and operation, and program development.)

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Mitchell also taught a specific conditioning class for downhill and cross-country skiers. The Japanese are avid skiers, and have built numerous indoor facilities to practice the sport.

Mitchell recently taught similar classes in Monterey, Mexico. In addition to her job as at St. David's, Mitchell has heads the water aerobics program at the Hills Fitness Center, with participants ranging from pregnant women to active octogenarians. "Water exercise and water therapy is beneficial to persons of all ages and abilities," she said. "A lot of people think it is just for older people, or for those with arthritis, but they would be surprised at the intensity level that can be achieved in the water. With the added benefit of music, the classes are fun and lively."

With her country-western music tapes in tow, Mitchell has no doubt made an impression on Japanese health and fitness. And perhaps she made some new fans for Willie Nelson too.

Internships

Aquatic Consulting Services is seeking an intern to work approx. 30 hours/week at assigned projects. Internship length can vary between 3 to 12 weeks. Flexible starting and ending dates. Stipend is $225/week and a daily pool swim pass. Lodging, transportation, travel, and living expenses will not be reimbursed. Working aquatic professionals, or college students majoring in Physical Education or Recreation and specializing in the area of aquatics are eligible. The intern must possess research, writing, word processing, Mac computer skills, and a valid driver's license. For more info. or to apply, submit your resume or C.V., along with the dates you are available, length of internship being requested, and a short explanation of your expectations to: Alison Osinski, Ph.D., Aquatic Consulting Services, 3833 Lamont Street 4C, San Diego, CA 92109; 619-270-3459.

Jobs

Still no jobs ?!?!?!?!? Hopefully things will be better in 1994.

Research $

The Aquatic Council of AAHPERD is developing a research fund to be used to support basic, applied, and service research projects in aquatics. Donations should be made out to the AAHPERD Aquatics Council Research Fund and sent to Ann Weiser, 1109 McCormick Street, Greensboro, NC 27403.

AquaFunology

Next time you have an aquatic exercise class, try the tube pass. Students are in groups of 6 - 8 people, with each group having one bicycle tube. Each group forms a circle and holds hands. One person has his arm through the inner tube. The group working cooperatively, will try to exchange the inner tube from one member to another without releasing hands.

- - - by Freeta Jones

Aquatic Codes and Regulations, Part III

by Alison Osinski, Ph.D.

(Editor's Note: This is the last of a three-part article highlighting current aquatic codes and regulations.)

There are many codes and regulations that an aquatic professional needs to know. This article will attempt to familiarize aquatic professionals with some of the codes, design specifications, guidelines, and public laws that regulate the way pools are built and operated in the United States.

U.S. EPA SARA Title III: The Emergency Planning and Community Right-to-Know Act of 1986

The Superfund Amendments and Reauthorization Act requires the reporting of hazardous substances stored on-site, their quantities, and where and how they are stored. It stipulates that "reportable quantities" designated by the RQ on the label, be disclosed if the substance is spilled or released into the environment. An oral report which includes the substance name, quantity released, time and duration of the release, possible health risks, medical advice for exposed individuals, evacuation procedures, and precautions to take if coming into contact with the substance, must be phoned in immediately after a release has taken place. A written report on the incident must also be filled. (Contact: U.S. Environmental Protection Agency, 202-755-0707)

Uniform Fire Code, Article 80: Hazardous Materials

Article 80 of the Uniform Fire Code was approved by the Western Fire Chiefs Association in 1988. Its purpose is to regulate chemical storage procedures, to lessen fire potential, and to warn firefighters of the health hazards, flammability, and reactivity of particular chemicals.

Standard placarding (UFC Stadard No. 79-3 hazard identification signs and NPFA 704 Ratings) identifying materials by hazard signal arrangement must be posted on the outside of the pool fence, building, or chemical storage room so that they can be read by firefighters as they approach the facility from the road. Hazardous materials inventory statements and management plans must be developed and submitted to the fire marshal. Secondary containment, spill control, and drainage must be provided. Chemical storage shelves must be braced, and hazardous materials storage cabinets, fire extinguishing systems, manual alarms or emergency signal devices must be provided. Personnel responsible for areas in which hazardous materials are stored must be trained to comply with requirements for the safe storage of corrosives, water reactive materials, flammable solids and compressed gasses. The employer must ensure that containers, cylinders, tanks, and drums used for transporting hazardous chemicals are handled safely.

The Code as originally written was overly strict and was strongly opposed by the pool industry. For example, storage of Class 3 oxidizers, such as calcium hypochlorite, were limited to ten pounds per site. As revised, Article 80 now allows 1,125 pounds of calcium hypochlorite to be stored, and double that amount if sprinklers are installed. (Contact: Western Fire Chiefs Assn., 310-699-0124)

U.S. EPA-Department of Agriculture: Pesticide Worker Safety Regulations

This regulation is designed to protect and train employees who handle or are exposed to pesticides on the job. Chlorine, muriatic acid, and specialty pool chemicals such as algaecides are considered pesticides.

Although a federal regulation, it is implemented at the state level by either the state EPA office, Department of Agriculture, or Department of Pesticide Regulation. States may equal or choose to exceed federal requirements. Some states like Hawaii and Pennsylvania have a strict interpretation of the regulation, and require that individuals who handle pool chemicals test be licensed as pesticide applicators by outside training agencies.

Nine topics are required in an in-service training program including interpreting the safety precautions on the pesticide label, closed systems, first aid and decontamination procedures, respiratory protection, worker safety regulations, and hazard communication information for employees handling pesticides and those working in fields. Each of the topics includes a written brochure which must be read by, or explained to, the employee. Employees must be given an opportunity to ask questions or have items clarified prior to signing a record acknowledging that he or she participated in the pesticide safety training. (Contact: U.S. Environmental Protection Agency, 202-755-0707)

U.S. EPA Clean Water Act

The federal Clean Water Act or the equivalent state regulation (Proposition 65: California Safe Drinkning Water and Toxic Enformcement Act, Georgia Safe Drinking Water Act, Massachusetts House Bill 5109...) has as its main purpose the identification of carcinogens and reproductive toxins, and the limiting of their release into the drinking water source. The regulation requires that the public be warned of the presence of these

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Hot Off the Blocks

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WaterX Newswave is a newsletter specifically geared towards water exercise. It is published bi-monthly out of Denver, Colorado. Susan Williams is the editor. For more information, contact 303-368-9138 or write to 1220 S. Parker Road, Ste. 210, Denver CO 80231.

from Codes, p. 3

dangerous chemicals in their neighborhoods. Signs must be posted to warn the public of the risks of possible exposure to chemicals. The Clean Water Act prohibits the discharge of chemically treated water into the drinking water source. As a result,many localities require diatomaceous earth separation tanks, and pool water must be neutralized before being disposed of into sanitary sewers.

OSHA 29 CFR 1910.1030: Occupational Exposure to Bloodborne Pathogens

To lessen the potential health risk to employees as a result of exposure to bloodborne pathogens (germs, harmful bacteria, viruses, fungi, or parasites), specifically including the Hepatitis B virus, and human immunodeficiency virus (HIV), employers with one or more employees must develop an exposure control plan and train employees on risks and methods of reducing the risk of infection. Records of the training must be maintained. Hazards in the workplace must be identified and warning labels and signs must be posted. Universal precautions and other methods of worker protection must be implemented.

Depending on the likelihood of occupational exposure, job classification, and required job responsibilities, voluntary pre-exposure Hepatitis B vaccines must be provided at no charge to exposed employees (e.g., lifeguards). The employer must provide all necessary immediate and long term medical care as a result of exposure. (Contact: OSHA Publication Office, 202-523-9667)

PL 101-336: The Americans With Disabilities Act

Public Law 101-336 was signed into law on July 26, 1990. The ADA mandates that "No individual be discriminated against on the basis of disability in the full and equal enjoyment of the goods, services, facilities, privileges, advantages, or accommodations of any place of public accommodation by any person who owns, leases (or leases to), or operates a place of public accommodation" [§302(a)]. The ADA prohibits discrimination in facilities open to the public against those with disabilities, and has as its purpose, the mainstreaming non-able bodies individuals into American society. The ADA augments or strengthens other laws which were designed to prevent discrimination, or that require facilities be accessible to all Americans. Aquatic organizations can no longer continue to ignore provisions of laws such as the Civil Rights Act of 1964, the Federal Handicapped Law (§504 of the Rehabilitation Act of 1973), or state codes. In the past, many aquatic professionals resisted implementing the provision of these laws in a mistaken belief that the requirements did not pertain to them. Although the ADA does not specifically mention pools or spas as facilities which must comply with the law, it does list hotels, motels, stadiums or other places of exhibition or entertainment, professional offices of health care providers, parks or places of recreation, schools, social service center establishments, gymnasiums, health spas, and other places of exercise or recreation. Barrier free access to pools and spas located within these facilities is implied.

Under the act, a disabled individual is broadly defined as one who is regarded as disabled, or has a record of a physical or mental impairment that substantially limits one or more major life activities. The ADA requires that the needs of all disabled individuals be anticipated in providing auxiliary aids and services. It requires that architectural changes be made to remove physical barries from existing facilities, and mandates accessibility in all new construction or when substantial alterations to a facility are made. Modification of policies, practices, and procedures to reasonably accommodate disabled individuals is required. (Contact: U.S. Subcommittee on Disability Policy, 202-224-6265)

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AquaFunology

Next time you have an aquatic exercise class, try *Weave the Basket*. Students form one large circle, face their partner, touch right hands, walk past the partner, and touch left hands with the next person in the ring and so one around the cirle. This causes the 1's to go in one direction and 2's to go in the opposite direction. They will alternately touch right hand left hands until partners meet again.

- - - by Freeta Jones