



ALABAMA MUNICIPAL INSURANCE CORPORATION MUNICIPAL WORKERS COMPENSATION FUND, INC.



Loss Control Division

SWIMMING FACILITIES

Swimming facilities may be places of fun and recreation, but they may also offer severe exposures. In recent years, they have been the source of numerous and sometimes very large claims for our Company. Therefore, it is very important when surveying any swimming facility that a careful evaluation be made of design, equipment, maintenance, operation, and security.

GENERAL

Historically, it was felt that the level of liability exposure increases with the number of users. This is not necessarily correct today. Some of our greatest losses have occurred in swimming facilities having very small usage. Large facilities have many users, but normally have qualified lifeguards, adequate depth for diving, good maintenance of equipment, and proper security. Smaller facilities may not have this protection. If protection from liability hazards is less effective at a small facility, accidents may be more apt to occur even though there are fewer users.

For purposes of this bulletin, swimming facilities are defined as follows:

1. Public - those operated by municipalities, communities, parks, summer resorts, YMCAs, schools, or colleges which are generally open to the public.
2. Semi-public - those operated by hotels and motels which are available to guests.
3. Semi-private - those operated by country clubs or apartment complexes which are only for members and their guests.
4. Private - those at private homes which are limited to family members and guests.
5. Above Ground - any pool constructed above ground.
6. Special Purpose - treatment and therapy pools, and wading pools.

The specifications outlined in this bulletin are taken primarily, but not entirely, from National Swimming Pool Institute standards.

DIVING

Diving is the single-most common cause of serious accidents. Each year numerous partial and total paralysis injuries occur, primarily to teenagers and young adults, from diving into too shallow water or using improper or poorly arranged diving boards. Therefore, careful consideration must be given to design, depth, and layout of any facility allowing diving.

As established by the National Swimming Pool Institute, diving should not be permitted in any facility unless water depths in the diving zone correspond to the following minimums:

Less than eight feet deep: No diving permitted. Boards and platforms should not be provided and "No Diving" signs should be provided. Note: Olympic and other pools designed for competitive racing frequently are less than eight feet deep. Shallow racing dives may be permitted during, or in practice for, competitive swim meets provided that these activities are closely supervised.

Eight feet deep: Deck level platforms and boards only. No raised board or platforms should be permitted.

Ten feet deep: Raised boards to a height of one-meter maximum permitted.

Twelve feet deep: Three-meter boards or platforms maximum permitted.

Fourteen feet deep: Five-meter platforms maximum permitted.

Fifteen feet deep: 7.5-meter platforms maximum permitted.

Seventeen feet deep: 10-meter platforms maximum permitted.

For competitive diving, NCAA standards recommend a depth of 12 feet for one-meter boards, 13 feet for three-meter boards and as above for higher platforms.

Above-ground pools: Under no circumstances should diving be permitted in above-ground pools unless the depth meets the above requirements.

Clearance: Measured from the front of the board, there should be an unobstructed clearance of at least 16 feet above and in front of the board, 8 feet behind the board, and 8 feet to either side. If there are two or more boards, there should be at least 10 feet separation between each board.

SLIDES

Slides are another source of serious injuries and must be evaluated carefully. The AIA Product Safety Bulletin 3.B.32 is a reference for design and construction of the slide. For installation, the following guidelines should be met:

1. The exit point of the slide should be no greater than 20 inches above the water.
2. While there are no standards dictating the minimum depth of water beneath a slide, good judgment would indicate that water depth of at least 8 feet should be provided for slides 8 feet or less in height. Slides should not be permitted if water depth is less than 8 feet. Slides of 10 feet in height should have water at least 10 feet deep. Higher slides should have water at least 12 feet deep.
3. The required minimum water depth should extend in front of the slide for a horizontal distance $1\frac{1}{2}$ times the height of the slide. For example: For a slide 8 feet high, the water depth should be at least 8 feet deep. The 8 feet deep water should extend for a horizontal distance of at least 12 feet ($1\frac{1}{2}$ times the height) in front of the slide.

Where slides exist, extra care should be taken to control horseplay and dangerous sliding. It is recommended that no more than one person be on the slide or ladder at anytime and that only seated feet-first sliding be permitted.

UNDERWATER CONSTRUCTIONS

There should be no hazardous protrusions, extensions, means of entanglement, or other obstructions which can entrap or injure a swimmer.

ROPE FLOAT

A rope with visible floats spaced no more than seven feet apart should be installed on the shallow side of the break in the slope between the shallow and the deep portions of the pool.

Other man made and natural bodies of water should have the swimming areas roped off, if practical.

DEPTH MARKERS

The depth of the water in pools should be plainly marked in feet on the vertical pool walls or edge of the deck next to the pool at the minimum and maximum points and at the break in slope between the shallow and deep portions of the pool. These depth markers should be in numerals at least four inches high.

WADING POOLS

Public wading pools should not have a depth greater than 24 inches and a slope of no more than 1 foot in 15 feet. Wading pools should be carefully supervised by a lifeguard or parent when in use by children.

ELECTRICAL

All electrical equipment and wiring should conform to the National Electric Code, Article 680.

DRAINS

Pool floor drains should not permit a flow of water greater than two feet per second through gratings. Openings in the grating should not be larger than one-half inch and designed to prevent entrapment of fingers, toes, etc.

RECIRCULATION AND FILTRATION SYSTEM

Public pools should have adequate equipment to circulate and filter the capacity of the pool at least three times in 24 hours. Wading pools should have adequate equipment to circulate and filter water at least six times in 24 hours. The recirculation and filtration equipment for wading pools should be completely separate from that of the swimming pool. All equipment should be properly installed and maintained. Other pools should have adequate recirculation and filtration equipment for usage.

CHEMICAL HANDLING

Pool chemicals can be extremely hazardous if handled improperly. Material Safety Data Sheets should be obtained from the manufacturer, maintained on the premises and followed whenever chemicals are stored or used. All persons handling chemicals should be properly training and instructed to use personal protective equipment such as face shields and gloves.

Calcium hypochlorite is a strong oxidizer, especially when wet. If conditions are correct, contact with organic materials or acids may cause fires and explosions. Avoid storage of calcium hypochlorite near organic materials, combustibles, or acids.

Where gaseous chlorine equipment is provided, it is recommended that enclosures be located at or above ground level. Where equipment is located below grade in a filter room or in any part of a building which provides a housing:

- a. The mechanical proportioning device and cylinders of chlorine should be housed in a reasonable gas-tight, corrosion-resistant, mechanically-vented enclosure.
- b. There should be an adequate ventilation system including (1) a motor driven exhaust fan capable of producing at least one air change per minute; (2) air-tight ducts extending from the bottom of the enclosure to the atmosphere in an unrestricted area; and (3) automatic louvers admitting fresh air located near the top of the enclosure.
- c. Electrical switches for artificial lighting and ventilation must be on the outside of the enclosure adjacent to the door.
- d. The floor area of the enclosure must be of adequate size to house the chlorinator.
- e. Chlorine equipment should be located where it is not subject to freezing temperatures or it should be completely drained during freezing weather.
- f. Respirator protection for chlorine must be provided and mounted outside of the chlorine compartment. Refer to "NIOSH/OSHA Pocket Guide to Chemical Hazards" (DHEW(NIOSH) Publication No. 78-210).
- g. It is highly recommended that a Chlorine Institute approved safety kit be stored outside or near the room where chlorine cylinders are stored and used.
- h. It is also recommended that an automatic chlorine leak detector be installed.

FENCING

Small children accidentally falling into pools and drowning have been a major source of large claims. Therefore, it is essential that all swimming pools have substantial enclosures at least 4 feet in height. If possible, access to pools should be through bath houses, dressing rooms, or other facilities near the pool. When pools are not in use, access doors should be kept locked.

It is desirable that other man made or natural swimming facilities be fenced to limit unauthorized access if practical. "No Swimming" signs should be posted when facilities are closed.

In some situations additional pool security may be warranted. There are alarms and covers available which offer additional protection against unauthorized use and drownings.

LIFEGUARDS

Public facilities must have qualified and vigilant lifeguards whenever the facility is open to the public. The use of part-time lifeguards or use of the pool when a lifeguard is not present is unacceptable. For public facilities one lifeguard station is required for each 2000 square feet of water surface area and increments thereof.

Some semi-public and semi-private facilities have usage approaching that of public facilities and should have lifeguards. Other semi-public and semi-private facilities, and most private facilities with lower usage may not need lifeguards, unless required by local ordinance. You must use your good judgment in making this determination.

To assist lifeguards, public pools should have the following life saving equipment placed in a permanent and readily accessible location:

- a. A pool shepherd's hook or light but strong pole with blunt ends not less than 12 feet long.
- b. A ring buoy of at least 15-inch diameter or similar flotation device attached to a $\frac{1}{2}$ -inch throwing rope of a length $1\frac{1}{2}$ times the width of the pool or 50 feet, whichever is less.

SANITATION

Contaminated water is a well known vehicle for transmitting diseases. The most serious comes from ingestion of water containing typhoid, dysentery and cholera. In addition, contaminated water can cause respiratory diseases and minor ailments such as ear and eye infections and skin lesions. To minimize disease exposures, all swimming facilities should be kept in a sanitary condition.

Pools should be tested at least daily depending on usage and other conditions. Other man made and natural bodies of water should be tested on a schedule established by local health authorities.

Pool water should have a free available chlorine level of between 1.0 and 1.5 parts per million. Public pools should have chemical feeding equipment capable of precisely supplying chemicals to provide this chlorine level. The pH level should be maintained (ideally) at 7.5 with a minimum of 7.2 and a maximum of 7.8.

SAFETY INSPECTIONS

When swimming facilities are in use, management should perform a thorough safety inspection on a daily basis. They should inspect the entire facility including all equipment, walkways, diving boards, platforms, floats, life saving equipment, etc. It is desirable that records be maintained of these inspections.

To publicize that the pool facility is to be used properly, rules should be posted near the entrance and include the following:

- a. Pool hours.
- b. "Swimming is prohibited when the pool is closed."
- c. "No diving", if pool is less than 8 feet deep.
- d. "Children must be accompanied by an adult."
- e. "No running, pushing, shoving or horseplay allowed in pool area."
- f. "No flotation devices, tubes, or mattresses allowed in pool area."
- g. "No glassware allowed in the pool area."
- h. "No animals allowed in pool area."

RULES

For semi-public and semi-private facilities where no lifeguard is required, a notice should be printed listing the hours that the facility is open for use. Rules containing the following minimum requirements should be posted:

1. Children are not allowed in the enclosure unless accompanied by an adult.
2. Facilities should not be used unless two or more persons are present.
3. Phone numbers of the nearest emergency facilities.

Always ask how are pool rules enforced and convey this information in your report.

PRODUCTS AND COMPLETED OPERATIONS EXPOSURES - Swimming Pool Installers, Equipment Suppliers and Service Companies

We have been drawn into a number of large pool losses involving completed operations and/or products coverage of these operations. Sometimes swimming pool work is a very small percentage of the account's business and we did not know that such exposures existed. Therefore, it is very important that possible swimming pool work exposures be carefully evaluated and described in reports when surveys are made. Here are a few examples of accounts that may have an occasional and possible unexpected swimming pool exposure:

1. Backhoe operators or grading contractors who may occasionally install a swimming pool, but not have qualifications for adequate design.
2. Discount, department or hardware stores may, through ignorance, order a diving board that is inappropriate for the depth of a customer's pool.
3. Pool cleaning service companies may sometimes recommend and/or install inappropriate equipment, or perform repairs for which they are unqualified to perform or recommend.