

**INITIAL STATEMENT OF REASONS**  
**FOR**  
**PROPOSED PUBLIC SWIMMING POOL REGULATIONS**  
**OF THE**  
**CALIFORNIA DEPARTMENT OF PUBLIC HEALTH**  
**REGARDING THE CALIFORNIA CODE OF REGULATIONS, TITLE 22,**  
**CHAPTER 20**

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action:

**SUMMARY OF THE PROPOSED REGULATIONS:**

The California Department of Public Health (CDPH) is authorized to establish and enforce regulations pertaining to public swimming pools pursuant to California Health and Safety Code (H&S Code) sections 116035 and 116050. The regulations make specific, interpret and implement sanitation, health and safety standards for public pools in California.

The purpose of this proposal is to amend the public swimming pool sanitation, health and safety regulations found in California Code of Regulations (CCR) Title 22. The proposed amendments to CCR Title 22 regulations incorporate best operation and maintenance practices at public pools and are necessary to protect public health and safety. The proposed regulations are applicable to all public swimming pools including new types of public bathing places such as water parks, spray grounds and associated water features. The proposed amendments are also necessary for consistent enforcement statewide. The proposed amendments repeal certain existing and outdated CCR Title 22 regulations that pertain to public swimming pool construction standards because those regulations are duplicative of provisions in CCR, Title 24, Chapter 31B, Part 2 (Title 24, California Building Code) in 2012.

This proposal is supported by the California Conference of the Directors of Environmental Health.

The proposed regulations would adopt new sections 65530, 65534, 65540, and 65546; amend sections 65501, 65503, 65511, 65521, 65523, 65525, 65527, 65529, 65531, 65533, 65535, 65537, 65539, 65541, 65545, and 65551; and repeal sections 65505, 65507, 65509, 65543, 65547 and 65549 in CCR Title 22.

**AUTHORITY:**

In 1959, the Legislature of the State of California determined that public swimming pools should be regulated to protect public health and safety. Today these public swimming pool statutes are located in the H&S Code sections 116025 through 116068. "Public swimming pool" is broadly defined by statute as "any public swimming pool, bathhouse, public swimming and bathing place and all related appurtenances" hereinafter referred to collectively as "public pool." H&S Code section 116025.

The Legislature gave CDPH broad "supervisory authority" over "sanitation, healthfulness and safety" of public pools. H&S Code section 116035. The Legislature further authorized CDPH to adopt regulations to make specific, interpret and implement the public pool statutes. H&S Code section 116050. Thus, CDPH's regulatory authority over public pools extends to oversight of operation, maintenance, health and safety procedures and standards at traditional public swimming pools, diving pools, spas and other public bathing pools and associated facilities. The broad public pool statutes also give CDPH supervision over new types of public pools or bathing facilities such as water parks, public bathing fountains, spray grounds, water features and other innovative bathing places. H&S Code sections 116025 and 116040. CDPH inspectors and representatives of local health officers are authorized further to enter the premises of public pools to determine if they meet the regulations adopted by CDPH and to enforce compliance with those regulations. H&S Code sections 116050, 116053, 116055 and 116063.

**BACKGROUND AND POLICY STATEMENT OVERVIEW:**

***The Problem***

The regulations that make specific, interpret and implement the broad public pool sanitation, healthfulness and safety statutes are located in CCR Title 22, sections 65501 through 65551. CDPH last updated these regulations in 1986. However, since then, the pool industry and public health concerns have changed considerably.

Public health researchers and the pool industry have broadened our understanding of the seriousness of microbiological contaminants and health risks from waterborne disease and how they are transmitted in and around public pools.<sup>1</sup> From 2007 to 2008, for example, 134 recreational water-associated

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<sup>1</sup> See, e.g., World Health Organization. *Swimming Pools and Similar Environments. Guidelines for Safe Recreational Water Environments*, Volume 2. World Health Organization, Geneva, 2006, p. 23-59.  
[http://www.who.int/water\\_sanitation\\_health/bathing/srwe2full.pdf](http://www.who.int/water_sanitation_health/bathing/srwe2full.pdf)

outbreaks were reported by 38 states and Puerto Rico through the Centers for Disease Control and Prevention Waterborne Disease and Outbreak Surveillance System. Of these, 86.6% of the total outbreaks affecting 13,996 individuals were associated with treated recreational water such as public pools and interactive fountains.<sup>2</sup> Importantly, public health researchers have developed a clearer understanding of how pool water chemistry reduces the spread of pathogens and diseases and, with excessive chemical concentrations, can also irritate and otherwise negatively affect pool users' health.<sup>3</sup> New technology allows for more effective pool water filtration and more efficient and accurate water testing methods. Updated construction techniques and standards now in Title 24, California Building Code have pushed the need for compatible and updated pool operation, maintenance, health, sanitation and safety regulations.

Given these changes, CDPH is proposing to update the CCR Title 22 public pool operation, maintenance, health, sanitation and safety regulations in accordance with public health recommendations primarily from the United States Centers for Disease Control (CDC) and the World Health Organization (WHO). This proposal also changes unclear and antiquated language and adds new definitions to the existing regulations to reflect best pool practices and to increase

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Centers for Disease Control and Prevention. *Surveillance Summaries*. Morb. Mortal. Wkly. Rep. 2011 September 23;60(12):1-37). <http://www.cdc.gov/mmwr/PDF/ss/ss6012.pdf?source=govdelivery>; and Centers for Disease Control and Prevention. *Promotion of Healthy Swimming After a Statewide Outbreak of Cryptosporidiosis Associated with Recreational Water Venues – Utah, 2008 – 2009*. Morb. Mortal. Wkly. Rep. 2012 May 18;61(19):348-352. [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6119a5.htm?s\\_cid=mm6119a5\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6119a5.htm?s_cid=mm6119a5_e).

<sup>2</sup> Centers for Disease Control and Prevention. *Surveillance for Waterborne Disease Outbreaks and Other Health Events Associated with Recreational Water — United States, 2007–2008 and Surveillance for Waterborne Disease Outbreaks Associated with Drinking Water — United States, 2007–2008*. Morb. Mortal. Wkly. Rep. 2011 September 23;60(12):1-37, p. 5. <http://www.cdc.gov/mmwr/PDF/ss/ss6012.pdf?source=govdelivery>

<sup>3</sup> The U.S. Consumer Product Commission's National Electronic Injury Surveillance System indicates 4,574 emergency room visits were attributable to pool chemical-associated injuries in 2008 with 1,784 of those visits due to poisoning. *Id.* at 2 and 13.

clarity for regulation users. These amendments clarify public pool owner and operator responsibilities, add new water treatment standards and testing procedures, and specify updated record keeping requirements.

This regulatory proposal applies operation, maintenance, health, sanitation and safety regulations to new types of public bathing places and pools such as water parks, spray grounds and water features. H&S Code section 116025. Spray grounds, for example, have become extremely popular with the public over the past several years. These facilities typically consist of water sprays, dancing water jets, waterfalls, dumping buckets, shooting water cannons, or other such features on a sloped pad. Spray grounds rinse any contamination including urine, diarrhea, vomit and dirt down into a water holding pool called a surge basin. The surge basin water is then recirculated, treated and returned to the public spray. Typically, a spray ground has a high bather load and a low volume of water. The public health risk associated with this type of public pool is significant<sup>4</sup> and has been associated with numerous illness outbreaks around the country and in California. In 2004, the Mustang Water Slides in Arroyo Grande caused 250 illnesses and closed the facility for the rest of the season.<sup>5</sup> In 2006, the interactive fountain at Plaza de Cesar Chavez Park in San Jose had numerous illnesses reported from cryptosporidium infection.<sup>6</sup> In 2008, an outbreak in the Slide Hill Park kiddie pool, slides, fountains and other features resulted in 5 children with confirmed cryptosporidium.

Where water features are associated with a traditional public swimming pool there does not appear to be a problem with the establishment of standards. However, many of these spray ground facilities and new types of water features are not associated with a traditional public swimming pool. Thus, these proposed regulations establish that water features, wading pools and spray

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<sup>4</sup> In 1999, an outbreak of diarrheal illness occurred at a newly opened facility in a beachside park in Florida. The illness affected 44 percent of an estimated 4,800 people who used the facility. Centers for Disease Control and Prevention. *Outbreak of Gastroenteritis Associated with an Interactive Water Fountain at a Beachside Park--Florida, 1999*. *Morb. Mortal. Wkly. Rep.* 2000 Jun 30;49(25):565-8. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4925a3.htm>

<sup>5</sup> Wheeler, C., et al. *Outbreak of cryptosporidiosis at a California waterpark: employee and patron roles and the long road towards prevention*. *Epidemiology and Infection*. 2007 February; 135(2): 302–310. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2870568/>

<sup>6</sup> Kirian, M.L., G. Meregillano, D. Gennette, and J. M. Weintraub, *Epidemiology and Infection*. *Multi-jurisdictional Investigation of Interactive Fountain-Associated Cryptosporidiosis and Salmonellosis Outbreaks*. 2008 November; 136(11): 1547–1551. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2870747/>

grounds are subject to public pool operation, maintenance, sanitation, water quality, healthfulness and safety standards. This proposal is also made upon recommendation of the California Conference of Directors of Environmental Health.

In addition to disease outbreaks, there are other public health concerns associated with public pools. Chlorine and other chemicals used to disinfect pool water, high spa temperature and drownings or near-drownings cause pool users to become ill, injured or worse. In 2009, chlorine caused 7 people to become ill at a Pasadena city pool. In 2010, chlorine caused 17 people to have eye and respiratory illnesses from a local California park pool. In 2011, 20 people were injured due to a chlorine leak at the Sacramento Raging Waters wave pool facility. The United States Consumer Product Safety Commission estimates that an average of 5,100 pool or spa related submersion injuries were treated in hospital emergency departments in the U.S. each year from 2008 to 2010. The 2010 swimming season from Memorial Day until Labor Day California alone had a total of 47 incidents of which 29 were drownings and 18 were near-drownings. Of these, 3 drownings and 9 near-drownings occurred in public pools.

Note that the new Title 24, California Building Code standards address pool construction requirements, chlorine storage and many of the causes of drowning or near-drownings. Risk management plans are required by H&S Code sections 25531 through 25543.3, and there are fire safety requirements, hazardous materials business plan requirements and respiratory protection requirements, among others, that apply to public pools. In comparison, this specific regulatory proposal addresses only amendments to the CCR Title 22 regulations that protect public pool users through ongoing operation and maintenance standards for health, sanitation and safety. The proposed regulations update water quality requirements including microbiological standards, water clarity, chemical residual levels and maximum public spa temperature and require specific pool lifesaving and safety equipment. CDPH's proposed amendments meet current industry practices to further reduce the potential for drownings, adverse physiological reactions to chemicals and other common public pool safety problems.

CDPH also proposes to repeal duplicative and outdated public pool construction regulations and standards located in CCR Title 22. Many of the public swimming pool construction regulations and standards are currently located in both CCR Title 22 and Title 24, California Building Code. This duplication causes confusion for regulation users and enforcing agents. CDPH is thus proposing to repeal all public pool construction regulations and standards in CCR Title 22 so they are only located in Title 24, California Building Code. CDPH proposes to duplicate some key definitions from Title 24 into Title 22 for clarity and ease of use by regulation users. Without this duplication, public pool operators would be required to refer back and forth between the two titles to understand their legal obligations when operating and maintaining a public pool. With these changes,

the CCR Title 22 regulations become more clear, user friendly and a stand alone set of regulations.

***Purpose:***

Given the changes to the public pool industry, CDPH recognizes that Title 22 public pool operation and maintenance regulations need to be updated and changed to effectuate the statutory purposes of ensuring public pools are sanitary, healthy and safe. H&S Code sections 116035, 116040 and 116043. This proposal adds new definitions to reduce confusion for regulation users and updates unclear and antiquated language. One specific goal of this revision is to clarify public pool owner and operator responsibilities in order to enable enforcing agents to hold the appropriate persons responsible for operating public pools in a healthy, safe and sanitary manner. An important public health and safety goal is to update water treatment procedures to reflect best practices in the industry in order to maintain the health and safety of pool users. These proposed regulations are intended to be more inclusive and specific about what is a public swimming pool so that new types of pools and bathing facilities clearly fall within the statutory and regulatory framework. Each amendment helps effectuate CDPH's statutory mandate to supervise the sanitation, healthfulness and safety of public pools.

In addition, this regulatory proposal is needed to repeal some existing CCR Title 22 regulations that pertain to public pool construction standards because those outdated regulations confused regulation users. Those CCR Title 22 construction regulations are duplicative of more updated regulations now located in Title 24, California Building Code.

In reaching its decisions, CDPH staff conducted public health research on the internet, considered numerous industry and research publications relating to pool management practices, attended presentations by pool industry representatives, consulted with local health officials and sought input from public pool stakeholders. CDPH relied heavily on research conducted by WHO and CDC as well as CDC's Model Aquatic Health Code Modules and regulations from other states. CDPH purposefully wrote the proposed CCR Title 22 regulations to be consistent with the newly revised pool construction standards found in Title 24, California Building Code. This consistency was necessary for clarity and ease of use by regulation users to comply with the ongoing operation and maintenance regulations found in CCR Title 22.

***Broad objectives:***

The broad objectives of this proposed regulatory action are to:

- Update and clarify public pool water quality and treatment standards, safety requirements, record keeping, and operation and maintenance of public pools and ancillary facilities to ensure sanitary, healthful, safe and well maintained public pools.
- Update public pool operation and maintenance procedures and standards to meet current pool industry best practices.
- Repeal CCR Title 22 public pool construction regulations that are outdated and duplicative of regulations now located in Title 24, California Building Code.
- Update and clarify responsibilities of owners and operators in maintaining sanitary, healthful, safe and well maintained public pools.
- Protect the health and safety of public pool users at all public pool facilities throughout California.

***Benefits:***

Anticipated benefits from this proposed regulatory action are:

- To simplify and clarify the CCR Title 22 public pool operation and maintenance standards to enable operators and owners to more efficiently and cost effectively provide sanitary, healthful, safe and well maintained public pools for pool users.
- To reduce confusion about public pool construction standards and on-going operation and maintenance standards.
- To establish consistency between CCR Title 22 and Title 24, California Building Code, so the State has a comprehensive and consistent public pool health and safety regulatory scheme from the preconstruction planning of a public pool to the ongoing operation, maintenance and regulatory enforcement of regulations and standards.

- To establish performance based health and safety standards where possible that meet concerns of public health officials, the public pool industry and enforcing agents.
- To establish clear responsibility for owners and operators of public pools and to clarify enforcement authority for noncompliance with health, safety, operation and maintenance regulations and standards.
- To promote statewide consistency in public pool operation, maintenance, health and safety standards and procedures.
- To protect the public health and safety of all public pool users and public pool employees throughout California.

***Consistency and Compatibility with Existing State Regulations:***

CDPH has evaluated whether the proposed regulations are inconsistent or incompatible with existing state regulations. This evaluation included a review of CDPH's laws and specifically those statutes and regulations related to public pool construction, health and safety, operation, maintenance, and enforcement. CDPH staff also conducted an internet search of other State agency regulations.

Several California statutes and regulations govern specific public pool and residential pool construction, operation and maintenance. No known statute or regulation conflicts with this proposed regulatory update for public pools. Some compatible statutes such as the Swimming Pool Safety Act, H&S Code sections 115920 through 115929, and the Wave Pool Safety Act, H&S Code sections 115950 through 115952, provide additional safety requirements for particular types of pools, and each is compatible with this proposal.

Detailed public pool construction standards are located in Title 24, California Building Code Chapter 31B. Public pool construction regulations address standards and requirements for public pool construction and renovation prior to operating a public pool as stated in the Title 24, California Building Code, section 3101B Scope. After construction is complete, public pool owners must comply with CCR Title 22 public pool standards to ensure the public pool and ancillary facilities are operated and maintained in a "sanitary, healthful and safe manner" on an on-going basis. H&S Code section 116040. The provisions in this proposed regulatory update do not conflict with Title 24, California Building Code. However, in order to provide a clear, consistent and overall regulatory scheme regarding public pool construction, operation, maintenance and enforcement, CDPH has proposed duplicating some definitions from Title 24, California Building Code into CCR Title 22. By repeating a few key terms in CCR Title 22,

the public pool operators, pool users and enforcing agents will refer to one source for all ongoing public pool operation and maintenance standards.

Terms such as “surge basin” and “splash zone” are taken directly from the Title 24, California Building Code definitions effective September 1, 2012, and are used in CCR Title 22 for clarity so public pool owners and operators understand the two sets of regulations refer to the same pool features. Sections 3101B and 3102B, Title 24 Scope and Definitions, are not always identical to those proposed for CCR Title 22 but are as similar as possible to avoid confusion for the reader. Other terms such as “spray ground” and “spa” are slightly modified in CCR Title 22 to clarify to that the proposed maintenance and operation regulations apply only to public pools and not private, residential pools. Similarly, by consistently using the term “public pool” rather than just “pool” throughout CCR Title 22, regulation users and the general public will be less likely to be confused as to whether they are reading regulations for residential or public pools. None of the minor wording changes to definitions used in the proposed CCR Title 22 language make them incompatible with Title 24, California Building Code. The terms utilized in both the CCR Title 22 and 24, California Building Code definitions are familiar to the public pool industry, and by being as consistent as possible, the regulatory scheme increases clarity and reduces confusion for regulation users, the general public and enforcing agents.

CDPH determined that no other state regulation addressed the same subject matter and that this proposal was not inconsistent or incompatible with Title 24 California Building Code, Chapter 31B or other State regulations. Therefore, CDPH has determined that this proposal, if adopted, would not be inconsistent or incompatible with existing state regulations.

**Detailed Discussion of the Specific Purpose, Rationale and Problem Addressed for Each Regulation Proposed for Amendment, Adoption or Repeal:**

**Authority Cited in this Regulatory Proposal:** Sections 116035, 116048, 116050, 131052 and 131200, Health and Safety Code; sections 54, 54.1 and 54.2, Civil Code.

**References Cited in this Regulatory Proposal:** Sections 115950, 115952, 116025, 116028, 116035, 116040, 116043, 106050, 116053 and 116055, 116060 and 116063, H&S Code.

Authority and reference citations proposed for amendment are non-substantive changes, unless noted. These amendments update the public pool regulations to reflect the statutory numbering system implemented by the 1995 recodification of the H&S Code and the reorganization of CDPH of Health Services into CDPH of Health Care Services and CDPH, pursuant to SB 162. (Stats. 2006, ch. 241.)

**Section 65501. Definitions:** This section provides definitions of terms used in the regulations. The amendments to these definitions are reasonably necessary to provide for uniform interpretation of the text, consistency in the terminology used in the proposed regulations, and to effectuate the purposes of the public pool statutes. New definitions are proposed for adoption and outdated or unnecessary definitions are proposed for repeal. Some terms are proposed for amendment to improve clarity by defining only one term within each definition. The definitions also have been renumbered so they are placed in alphabetical order within CCR Title 22 section 65501. Several duplicative and outdated construction regulations are proposed for repeal because they have been relocated to Title 24, California Building Code as pool building standards.

**Subsection 65501(a):** The definition of “Swimming Pool” has been relocated and renumbered as subsection 65501(g) “Public Pool” in order to be placed in alphabetical order. This non-substantive change is reasonably necessary for increased clarity and ease of reading for regulation users.

The proposed adoption of a new subsection 65501(a) term, “Ancillary Facility”, is reasonably necessary to make specific the appurtenances, water treatment equipment and other features referred to in H&S Code sections 116025 and 116043, in addition to the swimming pool structure itself. This term will provide uniform interpretation and clarity to pool operators, regulation users and enforcing agents when evaluating whether the “sanitary, healthful and safe” standards in H&S Code sections 116040 and 116043 have been met throughout the public pool facility. This proposed definition of “Ancillary Facility” is consistent with the definition found in Title 24, California Building Code. Including the term

and its definition in CCR Title 22 is necessary to make CDPH's overall public pool regulatory structure consistent.

**Subsection 65501(b):** The definition of "Wading Pool" has been relocated and renumbered as subsection 65501(o) in order to be placed in alphabetical order. This non-substantive change is reasonably necessary for increased clarity and ease of reading for regulation users. Substantive changes to the definition of "Wading Pool" are discussed below in subsection 65501(o).

The proposed adoption of a new definition for "Clean Pool Water" in CCR Title 22 subsection 65501(b) is necessary to provide clarity for regulation users and consistency between section 3102B of Title 24, California Building Code and CCR Title 22. This term is commonly understood in the pool industry and assists in identifying the presence of pool water contaminants, debris, trash, clothing, dirt, leaves and extraneous material that can hinder effective pool operations and filtration of pool water. This easily understood term clarifies the enforcing agent's expectations that operators must physically skim the surface of pool water or otherwise remove such debris.

**Subsection 65501(c):** The definition of "Special Use Pool" has been relocated and renumbered as subsection 65501(k) and revised to be consistent with the definition used in section 3102B of Title 24. This change is reasonably necessary for increased clarity and ease of reading for regulation users.

The definition of "Clear Pool Water" has been proposed as the new subsection 65501(c) to be consistent with the definition and use of Title 24, California Building Code, section 3102B. This term is also commonly understood and used in the pool industry. This definition is reasonably necessary as it is critical to water safety at public pools to ensure that life guards, pool operators and pool users are able to see the bottom of pools and drains to reduce the risk of drowning. It is reasonably necessary to provide for uniform interpretation and consistency in the terminology used by the pool industry, the public and enforcing agents to effectuate the purposes of the public pool safety statutes.

**Subsection 65501(d):** It is reasonably necessary to amend the term "Enforcing Agent" to clarify the specific persons with the authority to enforce public pool operation, maintenance, health and safety standards and regulations. This term has been included to be consistent with the Title 24, California Building Code definitions to improve clarity for regulation users. The outdated term "sanitarian" is proposed for amendment to "environmental health specialist" to be consistent with a statutory name change found in H&S Code section 106600. The definition includes that CDPH inspectors are also enforcing agents. While this is not the exact definition in Title 24, California Building Code, the proposed Title 22 definition is consistent with the Title 24 definition and takes into account CDPH's enforcement authority under H&S Code sections 116050, 116055 and 116063.

**Subsection 65501(e):** It is reasonably necessary to delete the term “Temporary Training Pool” because this type of pool no longer exists in California. Temporary pools cannot meet modern construction standards for public pools. Therefore, the public pool regulations will never be applied to a temporary training pool. This definition does not exist in the Title 24 California Building Code and is unnecessary in CCR Title 22.

The term “Pool Operator” is proposed to be adopted in alphabetical order as new subsection 65501(e). It is reasonably necessary to add a definition for the term “Pool Operator” to provide uniform interpretation and clarity as to the person(s) ultimately responsible for complying with public pool sanitation, health and safety regulations. This definition is also reasonably necessary to allow a pool owner to delegate operation and maintenance authority, for example, to an employee or contracted pool maintenance company but clarifies that the owner retains responsibility for complying with the statutes and regulations for enforcement actions. This term is reasonably necessary to provide uniform interpretation and clarity for enforcing agents throughout the State.

**Subsection 65501(f):** For clarity, the definition of “Spa Pool” has been amended, placed in alphabetical order and renumbered as subsection 65501(j). This change is reasonably necessary for increased clarity and ease of reading for regulation users.

The term “Pool User” is proposed to be adopted in alphabetical order as a new subsection 65501(f). The public pool regulations are intended to protect public pool users and other persons who visit or are present at the public pool site whether or not they enter the water of a public pool. This subsection is reasonably necessary because persons utilizing the ancillary facilities also can transmit or contract diseases that can be conveyed from the ancillary facilities into the pool water. This subsection is reasonably necessary to clarify that a pool user includes a person utilizing the public pool(s) or any of the appurtenances such as toilets, showers, dressing rooms and pool decks.

**Subsection 65501(g):** It is reasonably necessary to delete the confusing term “Department” given the California Department of Public Health, formerly known as the Department of Health Services, has responsibility over public pools.

For clarity and ease of reading, the definition of “Public Pool” has been relocated and renumbered from subsection 65501(a) to (g) in order to be placed in alphabetical order. It is reasonably necessary to use the term “Public Pool” rather than “Public Swimming Pool” in order to be consistent with the broad statutory definition of H&S Code section 116025. This term has also been updated to be consistent with the updated building standards in section 3102B, Title 24, California Building Code. The definition is reasonably necessary to describe the containment structure that is the physical public pool rather than

create confusion by including one specific activity, swimming, that takes place in only some public pools. This definition is also reasonably necessary so residential structures falling outside the definition of "Public Pool" clearly do not need to meet public pool standards and regulations. The definition clarifies that public pools are also not bathing facilities whose primary function is to clean the body in order to better protect public health and safety.

**Subsection 65501(h):** The term "Public Pool Site" is proposed to be adopted as the new subsection 65501(h) to have uniform interpretation of one broad term that refers to all public pools and appurtenances at a particular public pool facility. This proposed term is reasonably necessary to provide clarity throughout the regulations because some regulations apply only to the public pool alone and some to the greater public pool facility and all its structures, equipment, and appurtenances.

**Subsection 65501(i):** The term "Recirculation System" is proposed to be adopted in alphabetical order as a new subsection. This term is reasonably necessary to define the water circulation equipment needed to operate and maintain a public pool in a sanitary, healthful and safe manner pursuant to H&S Code sections 116040 and 116043. Using this concise definition in the regulations, rather than a list of the possible water circulation components, is reasonably necessary to simplify and clarify the operation and maintenance requirements for public pool owners and operators. This definition is also necessary to be consistent with Title 24, California Building Code.

**Subsection 65501(j):** The definition of "Spa Pool" is proposed to be amended to "Spa" and renumbered from 65501(f) to 65501(j) in order to be simplified and placed in alphabetical order. These changes are reasonably necessary for increased clarity and ease of reading for regulation users.

This definition also has been updated to be consistent with the definition in Title 24, section 3102B, California Building Code. For clarity and to reduce regulation user confusion it is reasonably necessary to amend the Title 24 definition to define only one term "Spa" rather than to include the existing alternative terms "Spa Pool or Spa." This definition and the proposed amendment are reasonably necessary to clarify for regulation users and enforcing agents that a spa is a public pool, that a spa must meet the public pool regulations, and that a spa must be operated in a sanitary, healthful and safe manner.

**Subsection 65501(k):** It is reasonably necessary to propose the repeal of "Special Use Pools" because the term is confusing to regulation users, is overly restrictive for industry practices and is outdated.

It is reasonably necessary to propose a new term "Special Purpose Pool" to be consistent with Title 24, California Building Code. "Special Purpose Pool" is also reasonably necessary because public pools are rarely used for an exclusive

single purpose. The public pool industry designs and constructs a public pool for a specific purpose such as for water therapy, lessons or diving, often with a plan to seek authorization to utilize that same pool for multiple additional water activities. Unlike the existing “Special Use Pool” term, the new “Special Purpose Pool” term gives pool owners and operators potential use flexibility.

**Subsections 65501(l), (m) and (n):** These proposed terms are reasonably necessary to regulate new types of public bathing places called spray grounds that are not traditional public pools. These public bathing places generally consist of recreational interaction between the pool user and water features. For example, spray grounds typically include water sprays, dancing water jets, waterfalls, dumping buckets, shooting water cannons or other such features on a sloped pad that does not allow ponding of water. Where these water features are associated with a traditional public swimming pool there does not appear to be a problem with the establishment of operation, maintenance, health and safety standards.

However, many of these spray grounds are not associated with traditional public swimming pools. Typically, a spray ground has a high bather load and a low volume of water. The public health risk associated with this type of use is significant and has been associated with several illness outbreaks around the country. The proposed standards are based on enforcing agents’ experience responding to citizen concerns regarding this previously unregulated type of public pool. Local recreational park districts and municipalities also desire standards so that their public can safely use spray grounds. Because of the public health risks associated with spray grounds and other nontraditional bathing places in California, the California Conference of Directors of Environmental Health has requested that the CCR Title 22 public pool regulations apply to these facilities whether or not they are associated with a traditional public swimming pool.

Given that CDPH has broad authority to regulate public pools, including “public bathing places” under H&S Code section 116025, CDPH finds it reasonably necessary that public pool regulations be applied to these new types of public bathing facilities to protect public health and safety. These new terms are also consistent with Title 24, California Building Code definitions, and they clarify the ongoing operation, maintenance, and health and safety standards for pool owners, operators, the public and enforcing agents.

**Subsection 65501(o):** For clarity and ease of reading, the definition of “Wading Pool” has been relocated and renumbered from subsection 65501(b) to (o) in order to be placed in alphabetical order. This existing term is consistent with the definition in Title 24, section 3102B, California Building Code.

**Subsection 65501(p):** The addition of a definition for “Water Feature” is reasonably necessary because this is a new class of interactive devices and

structures at public bathing places that must be operated and maintained properly to protect public health and safety. Where these water features are associated with a traditional public swimming pool there does not appear to be a problem with the health and safety standards.

However, many water features are not associated with traditional public swimming pools. The public health risk associated with poorly maintained water features is significant and has been associated with several illness outbreaks around the country. The proposed standards are based on enforcing agents' experiences and citizen health concerns from this previously unregulated type of public pool. The California Conference of Directors of Environmental Health has asked that the proposed updates to the CCR Title 22 public pool regulations clarify that the regulations apply to these public bathing devices and structures whether or not they are associated with a traditional public swimming pool.

**Subsection 65501(q):** This definition for "Water Treatment System" is reasonably necessary so the regulation users understand what equipment is expected to be maintained and operated for a healthful, sanitary and safe public pool. Adopting this definition simplifies, and thus clarifies, the public health standards in comparison to the alternative of providing a long list of equipment repeated throughout the regulations. This definition is also consistent with the definition found in Title 24, California Building Code.

**Section 65503. Scope:** Subsection 65503(a) is reasonably necessary because it clarifies the scope of the regulations by providing examples of the wide range of public pools subject to these regulations and standards. This language will help the enforcing agents and regulated community identify if a pool is subject to these regulations. Several new types of public pools are added to the scope including mineral springs pools. Mineral springs pools are often traced back as the source of for large outbreaks of contagious disease in California. While mineral springs pools are already subject to the current CCR Title 22 public pool regulations, it is reasonably necessary to add them to the scope according to local public health officers to specifically highlight that mineral springs pools must comply with public pool health, sanitation and safety standards. The language in this subsection is purposefully not exhaustive so new types of public pools developed in the future will automatically be subject to the public pool CCR Title 22 regulations.

**Subsection 65503(b)** is reasonably necessary to make specific that mineral springs pools that fall within the fresh water flow exception standard in section 3123B.1, Title 24, California Building Code are exempt from the public pool disinfection requirements in section 65529. Under the fresh water flow through exception, some mineral springs can use fresh water flows to maintain public pool water quality rather than installing a water treatment system as required of most public pools in Title 24, section 3123B.1, California Building Code. However, the proposed regulations permit this exception to apply only if the

mineral springs pool water is tested monthly and meets the bacteriological water quality standards in section 65531. This clarification is necessary given the health risks due to the spread of contagious diseases from untreated pool water. Subsection 65503(b) also makes clear that a mineral spring pool that does not meet the fresh water flow exception standard in section 3123B.1, Title 24, California Building Code is required to comply with all public pool standards and requirements in CCR Titles 22 and 24, which includes a water recirculation and treatment system under Title 24, California Building Code. These provisions are reasonably necessary to protect public health and safety at mineral springs pools.

**Subsection 65503(c)** is reasonably necessary to define public pool appurtenances, as required in H&SC sections 116025 and 116043 that are subject to the proposed regulations in addition to the actual public pool itself. The amendments to the existing language remove antiquated and confusing terminology and update the regulations with terms more familiar to the public and regulation users. This regulation also improves clarity to assist enforcing agents.

**Subsection 65503(d)** is reasonably necessary to more clearly exempt private residential pools from public pool regulations as private residential pools are not built to meet public pool standards.

**Sections 65505. Plans and Specifications, 65507. Records, 65509.**

**Construction and Subsection 65511(a) Inspection:** These sections are proposed for repeal because they are duplicative and contain outdated building plan and construction standards that should be located only in Title 24, California Building Code. The repeal of these sections is reasonably necessary to avoid confusing the public about which standards apply when constructing or renovating a public pool. The repeal of these sections will reduce costs by eliminating duplicative and unnecessary work by public pool owners and enforcing agents.

**Subsection 65511(b) Inspection:** This subsection is proposed for amendment to clarify that the enforcing agent must provide written approval for operation rather than use. This revision is reasonably necessary because public pools become operational before the public is permitted to enter the public pool site or enter a public pool for use. This provision is reasonably necessary to ensure all public pool construction, water treatment systems, pool water characteristics, sanitation and health and safety requirements are met.

**Section 65521. Public Pool Supervision and Operation:** This section is reasonably necessary to provide uniform interpretation and consistency as to who is responsible for complying with public pool regulations and operation and maintenance requirements. This section also requires that the pool operator is responsible for making all operation and maintenance procedures, mechanical and electrical manuals and water treatment system available for use by the pool

operator and enforcing agent. This section is reasonably necessary so the pool operator can easily refer to the procedures and manuals during daily operations and in an emergency. This section is also reasonably necessary so during investigations, the enforcing agent can compare the written procedures and manuals with the actual practices at a public pool. This section is also proposed for amendment to delete duplicative provisions found in other sections of the regulations and to clarify confusing wording.

**Section 65523. Operation Records:** This section is proposed for amendment to provide clarity and to establish the public pool operation requirements. This amendment is reasonably necessary because the general requirements of the existing section 65523 are vague and no longer reflect best practices and the use of modern technology.

The proposed new language for subsection **65523(a)** identifies the frequency of testing depending on the chemicals chosen by the pool operator. The proposed language and requirement to test the temperature of heated pool water daily is reasonably necessary to protect the public from overheated spas, mineral spring pools and other heated pools. This requirement complies with the standards proposed by CDC and WHO. This subsection also proposes performance standards where possible, rather than prescriptive standards, which allows pool operators the flexibility to choose the method for testing the pool water. With this proposed amendment the pool operator can use automatic chemical monitoring and control systems with enforcing agent approval or more traditional manual water testing. This proposed regulation is also reasonably necessary to provide adequate and accessible data to enforcement agents during inspections at the public pool site thus eliminating the problem of pool information being stored at a location away from the pool site.

**Subsection 65523(b)** is reasonably necessary for recording cyanuric acid levels at the pool for protection of public health and enforcement actions in accordance with CDC and WHO recommendations. **Subsection (c)** is reasonable necessary to require the operator to test for combined chlorine and maintain it below 0.4 ppm in order to minimize pool user discomfort in accordance with CDC and WHO recommendations. Importantly, the proposal adopts **subsection (d)** which requires the operator to record routine maintenance and pool repairs. This provision is necessary so enforcing agents can ensure proper operation and maintenance at public pools to protect public health and safety.

**Subsection 65523 (e)** requires the operator to record procedural responses to fecal, vomit, blood and drowning incidents at public pools and is reasonably necessary because of the risk to public health from fecal, vomit, blood contamination and drowning incidents. Enforcing agents rely on data and information collected in subsections (a) through (e) when investigating recreational water illnesses that occasionally occur in public pools. Subsection (f) is reasonably necessary to ensure that records are maintained for a sufficient

period of time to establish a compliance history so enforcing agents make well-informed decisions.

**Section 65525. Recirculation and Water Treatment System Operation:** This section title and the regulations proposed for amendment are reasonably necessary to make the purpose of this section and the water treatment requirements clear for regulation users and the pool industry. The deletion of the antiquated concept of public pool “purification” is necessary because public pool water cannot easily or reasonably be purified. The industry and public health performance terms are public pool water should be “treated” with a “water treatment system.” This section is also necessary to establish the three general performance standards for treatment of public pool water, that being to have clean pool water, clear pool water and disinfected pool water in accordance with the more detailed procedures and requirements found later in the regulations. This section is necessary because it establishes standards that are accepted by industry and which enable the enforcing agent to evaluate public pool compliance. The remainder of the subsection is proposed for repeal because it is unnecessary and duplicative.

**Section 65525(b):** This subsection is proposed to ensure that the operation of water recirculation systems are at or above industry standards for different types of pools. The turnover time is the amount of time it takes for all the water in the pool to pass through the recirculation system. Lower water treatment turnover time in spray parks, for example, can result in non-potable water. Atomized non-potable water can then enter the lungs and introduce any contaminants that may be present. Because of the risk from microbiological contaminants such as Legionnaires Disease from atomized water produced by foggers and misters, a requirement for flow rates that results in a turnover time that produces potable water is reasonably necessary for these features. Maintaining a minimum flow rate so all pool water is kept clean, clear and disinfected is reasonably necessary to protect public health.

**Section 65527. Water Clarity:** This section is proposed for amendment to more clearly state responsibilities and water clarity standards at public pools. This proposed amendment is necessary to eliminate the vague passive voice, thereby clarifying the pool operator is responsible for meeting these requirements. The proposal deletes the term purification because the action of purification implies a higher level of treatment than is attainable. The goal of the pool treatment system is to make the pool water safe for the user through recirculation, filtration and disinfection. These proposed amendments are consistent with industry best practices given that drains at the bottom of the pool are no longer required at all public pools. This section is reasonably necessary to provide the enforcing agent and pool operators standards to guide their actions and responses.

**Section 65529. Public Pool Disinfection:** This section and its title are proposed for amendment only to include public pool water disinfection and test

kit requirements. These amendments are reasonably necessary for clarity and to simplify the regulation for users.

The water quality standards such as chemical levels, pH and water temperature are proposed to be moved to section 65530, Public Pool Water Characteristics. Disinfection standards will be separated into subsections 65529(a) through (c) with more restrictive requirements for public spas, wading pools and spray grounds where water flow is often lower, bather use higher, and the risk of contagious disease spread is high.

**Subsections 65529(a) and (b):** Amended subsection 65529(a) is reasonably necessary to provide a more performance based disinfection requirement. The specific existing disinfectant residual levels are proposed for deletion from subsection 65529(a), and the amended specific requirements are proposed to be placed in a table in a new subsection 65529(b). This table is reasonably necessary to provide clarity and ease of use for regulation users.

The proposed new requirements in subsection 65529(b) are for disinfection minimum and maximum levels of chlorine and bromine used in public pools and spas in accordance with CDC and WHO recommendations. For example, the minimum free chlorine residual has been increased to 2.0 ppm if cyanuric acid is used. Numerous microorganisms including pseudomonas, giardia and legionella have been identified as surviving at the lower levels of free residual chlorine disinfectant currently required in this section. According to CDC and WHO, 2.0 ppm minimum free chlorine residual will destroy most harmful microorganisms in pool water. A large majority of public pools in California already operate at a minimum of 2.0 ppm to provide a buffer against the extended periods of sunlight and elevated air temperatures. In accordance with CDC and WHO recommendations, a minimum level of 3.0 ppm free chlorine is required for spas due to the heavy bather load, water agitation, and elevated water temperatures.

The existing regulation does not set maximum chlorine residual. Yet, high chlorine residuals can be harmful to pool users, causing skin rashes, eye irritation and discoloration of hair and nails. Therefore, a maximum chlorine residual level is being proposed. This section also proposes to add a minimum disinfectant level of bromine. Bromine can be used as an alternative disinfectant to chlorine. The bromine equivalent to chlorine is 2.25 times the chlorine level and is reflected in the minimum level proposed. A maximum bromine level is not proposed because research is inconclusive as to the appropriate maximum bromine levels for public pools. Each of these standards or recommendations is based on the recommendations of CDC and the WHO.

**Subsection 65529(c):** The existing language in subsection 65529(c) that allows for future alternative disinfecting materials or methods is proposed for relocation to a new subsection 65529(d). This relocation is necessary to keep current

disinfection standards and regulations together with subsections 65529(a) through (c) for clarity. This provision is also reasonably necessary to provide for future possible disinfection technologies in 65529(d) and to specify the type of test kit required at public pool sites in 65529(e). It is reasonably necessary to reorganize this information for ease of use by pool operators and enforcing agents.

The new subsection 65529(c) is proposed to address use of ultraviolet light disinfection units for spray grounds and water features. This subsection is reasonably necessary to tie the new Title 24, California Building Code requirements for ultraviolet light disinfection units to the ongoing operation and maintenance standards of CCR Title 22 for spray grounds and water features. Subsection (c) clarifies that spray grounds and water features *with* ultraviolet light disinfection units must continuously run those units if that particular spray ground or water feature is in use. This subsection is reasonably necessary so pool owners who have spray grounds or water features without ultraviolet light disinfection units do not infer that this section requires them to install such units unless otherwise required by Title 24, California Building Code.

Subsection (c) is also reasonably necessary to reduce the risk of *Cryptosporidium* infection to pool users. Unlike bacterial pathogens, *Cryptosporidium* oocysts are resistant to chlorine disinfection and can survive for days in treated public pools despite adherence to recommended residual chlorine levels. In 2006, a total of 18 cryptosporidiosis outbreaks were reported to CDC's national Waterborne Disease and Outbreak Surveillance System. CDC describes five laboratory-confirmed cryptosporidiosis outbreaks in 2006 that involved public recreational water use. The popularity of recreational water venues, the number and geographic distribution of recent cryptosporidiosis outbreaks and the resistance of *Cryptosporidium* to chlorination make these improved treatment strategies for recreational water facilities reasonably necessary.

**Subsection 65529(d):** A new subsection 65529(d) added language that has been relocated from the existing subsection 65529(c). Additional proposed language describes that when other disinfection materials or methods are proposed, the pool operator must demonstrate that they have a residual and are as effective as chlorine and bromine. This provision is necessary so pool operators have the option of proposing new disinfection techniques and so any approved techniques is effective enough to protect public health.

**Subsection 65529(e):** This is a proposed new subsection relocating and amending existing subsection 65529(b) requirements for water disinfection test kits. The required test kit provides accurate halogen level readings in pool water and allows for total chlorine to be determined. This amendment is logical for clarity and ease of regulation use. It also provides the data necessary for

enforcing agents to confirm public pool water is healthful and sanitary during inspections.

**Section 65530. Public Pool Water Characteristics:** This section is proposed for relocation from section 65529 to section 65530 as a new table with amended and proposed chemical and physical water quality standards. This table is reasonably necessary to clarify and simplify the pool water chemical and physical characteristic standards for regulation users and enforcing agents.

The range for pH is proposed to be changed from 7.2 - 8.0 to 7.2 - 7.8 in accordance with CDC and the WHO recommendations for public pools. Chlorine is much more effective in disinfecting pool water at a lower pH. Narrowing the pH range makes the chlorine more effective and will serve to protect the public from recreational water illnesses. The maximum and minimum cyanuric acid level requirement is proposed to be moved here from section 65529. Cyanuric acid is used in pools to stabilize chlorine from sunlight. This allows the chlorine to last longer and provide continuing disinfection of the pool water. A maximum level of cyanuric acid is also proposed because high levels of cyanuric acid decrease the effectiveness of chlorine in controlling algae and other contaminant levels and because of the etching effect on pool plaster. A maximum combined chlorine level is proposed to be added. A maximum pool water temperature -- whether in a public spa, mineral spring pool, therapy pool or any other public pool -- is reasonably necessary because it protects the pool user from scalding and hyperthermia especially for public pool users with medical impairments. This maximum pool temperature limit of 104 degrees Fahrenheit is recommended by both CDC and WHO.

**Section 65531. Public Pool Water and Indoor Air Quality Standards:** The existing regulation is vague. The proposed amendment clarifies that it is the pool operator who is responsible for complying with the microbiological water and indoor air quality standards at public pools. This amendment is reasonably necessary for effective enforcement of the regulations and standards.

**Subsection 65531(a):** This subsection amends the existing microbiological testing methods to reflect current industry standards. During the 20 years since the existing testing standards were established, the public pool and public health industries have seen many advancements and improvements in testing methods and protocols. This subsection is reasonably necessary because it expands the testing methods permitted and provides specific microbiological standards for each test against which enforcing agents can evaluate compliance.

**Section 65531(b)** ensures the pool operator considers the physiological effects of adding excess pool chemicals to pool water. These provisions are necessary to protect the public from excess chemicals in the air and water that often cause negative health effects on public pool users.

**Section 65533. Public Pool Cleanliness:** The title of this section is proposed for amendment for ease of reading and to remind regulation users that these are standards for public pools, not residential pools. This is reasonably necessary to eliminate confusion for regulation users less familiar with State pool regulations.

**Subsection(a)** is proposed for amendment to clarify that it is the public pool operator who has the responsibility to comply with this clean water standard. The amendment provides examples of debris commonly found in public pools and is not an exhaustive list of materials that the pool operator must remove from the pool water when the pool is in use. This requirement reduces debris and extraneous material that can clog the water treatment systems and thereby reduces the treatment load placed on the system. These requirements are reasonably necessary to ensure higher water quality in the pool and better protect pool users' health and safety. This provision will also assist enforcing agents in enforcement actions.

**Subsection 65533(b)** is amended to relocate language regarding animals at public pools to its own new section 65534. This amendment is reasonably necessary to clarify that section 65533 solely regards cleanliness of public pools.

The new proposed language for subsection 65533(b) is relocated from the existing section 65533(a). This amendment is necessary because subsection (b) does not regard the types of debris prohibited in subsection (a). Rather, subsection (b) provides a performance standard for keeping the sides, bottoms and other surfaces of the public pool clean of algae and slime. These requirements are reasonably necessary to better protect the health and safety of pool users and to assist enforcing agents in enforcement actions.

**Section 65534 Animals:** This section is reasonably necessary to clarify that animals are prohibited in public pools and in ancillary facilities to protect the health and safety of pool users. This section is also reasonably necessary to explicitly permit service dogs, guide dogs and signal dogs in accordance with California Civil Code, sections 54 through 54.2.

**Section 65535. Public Pool Site Maintenance:** The proposed amendments to section 65535 are reasonably necessary to provide a common sense approach to performance standards found in H&S Code sections 116025 and 116035. This regulation clarifies that the public pool and the entire public pool facility are to be well maintained to protect pool users. Rather than provide a long list of all public pool and ancillary facility parts and different ways those parts can fail, be damaged by the public, break or cause hazards, the amendment to this section clarifies that the pool operator must simply "keep well maintained" all facilities post-construction. Existing subsection 65535(b) language regarding hoses is proposed for deletion as being prescriptive and unnecessary. The proposed subsection 65535(c) language is proposed for deletion from section 65535 and

more appropriately relocated to section 65551 regarding cleaning of ancillary facilities.

**Section 65537. Swim Suits, Towels, Caps and Protective Head Gear:** The proposed amendments to this section are reasonably necessary to provide clarity as to the requirement to clean bathing suits, caps, towels and head gear loaned to pool users. The proposed language makes clear that the pool operator has the responsibility to ensure compliance with this regulation. Head gear is proposed for inclusion in the list of equipment to be cleaned because headgear for water polo and other water sports can result in the spread of contamination from user to user.

**Section 65539. Lifesaving and Control of Public Pool Users:** This section is proposed for amendment to only provide standards and requirements for lifeguards. The proposed amendments to the title and section are necessary to delete provisions unrelated to lifeguards to clarify the contents of the section for ease of regulation use. Unrelated requirements throughout this section such as signage, lifesaving equipment and first aid kits are proposed for relocation to other sections that focus on each of those specific requirements.

**Subsection 65539(a)** is proposed for amendment to cite current statutory references. The proposal adds the requirement that lifeguard certificates be available at the public pool site for inspection by the enforcing agent. This requirement is reasonably necessary because the enforcing agent must be able to determine that lifeguards are properly qualified during an inspection.

**Subsection 65539(b)** is a non-substantive amendment from “bather” to the term “pool user.” This revision is reasonably necessary because it provides consistency throughout the public pool regulations and clarity for regulation users.

**Subsection 65539(c)** is proposed for deletion because it is duplicative of the statutory language found in H&S Code section 116045. This subsection is also duplicative of provisions found in in Title 24, section 3120B.4, California Building Code.

Language in subsection 65539(c) is amended to clarify the statutory requirements for lifeguard services specified in H&S Code section 116028. Subsection 65539(c) requires that lifeguards have no responsibilities other than performing lifeguard services. Many accidents at pools have been attributed to the distraction of lifeguards because of non-lifeguard duties. This reference is reasonably necessary to notify pool operators and pool users that lifeguards are restricted to performing the duties specified in the statute.

Existing subsection 65539(d) is proposed for deletion because it contains several unrelated and thus confusing requirements. The signage requirements duplicate and often conflict with current language required in Title 24, California Building

Code, section 3120B. Lifeguard training requirements in this section are outdated and conflict with the requirements of H&S Code sections 116033 and 116045.

New subsection (d) language requires lifeguards to wear apparel which clearly identifies them to pool users for safety. This regulation is reasonably necessary in cases of emergency because distinctive apparel allows pool users to readily identify lifeguards to seek immediate help.

Subsections (e), (f) and (g) are proposed for amendment and relocation to a new section 65540, consolidating required safety and first aid equipment into that one section.

**Section 65540. Safety and First Aid Equipment:** Section 65540 is adopted to consolidate requirements for first aid equipment into one section and to adopt new requirements for safety equipment that meet best practices in the pool industry. The equipment requirements are based on the Red Cross lifeguard standards specified in H&S Code section 116028. Subsections 65539 (e), (f) and (g) are proposed for relocation to section 65540 as more appropriate in the safety and first aid section. Section 65540 subsection(c) is amended and renumbered from 65539(f) to specify that the enforcing agent can require safety equipment if lifeguards cannot effectuate unaided rescue. This amendment is reasonably necessary so the regulations reflect current best practices at public pools and to protect pool users from drowning or near-drowning incidents. The amendments are also proposed for increased clarity. This language is reasonably necessary to clarify the safety and first aid requirements at public pools to assist pool operators and enforcing agents.

**Section 65541. Health of Employees and Public Pool Users:** This section is intended to reduce the potential spread of communicable diseases and illnesses at a public pool while also protecting pool employees' rights. This section is reasonably necessary to protect the health and safety of public pool users and other pool employees.

**Subsection 65541(a)** is proposed for amendment to reduce the risk to pool users from an employee with an infectious communicable disease. This section is reasonably necessary because it specifically restricts an employee from working in a capacity that risks spreading disease to pool users and other employees. This subsection also allows a licensed physician to override the restriction for pool employees if conditions of subsection 65541(b) are met.

**Subsection 65541(b)** is proposed to update existing antiquated language for clarity and consistency. This subsection requires that infectious pool employees and pool users specifically not enter pool water and provides examples, but not an exhaustive list, of conditions that trigger the prohibition. The descriptive indicators of illness have been expanded to include nasal and ear discharges

thus recognizing the potential for disease to be spread from these sources. This subsection also provides the specific requirements for a licensed physician to override the prohibition. This subsection is reasonably necessary to protect the health and safety of public pool users and employees.

**Subsection 65541(c)** is added to provide pool operators, employees and pool users a specific length of time they are required to stay out of the pool after having diarrhea. This section also adds a requirement that the local health department be notified if two or more lifeguards or pool users report having had diarrhea within 5 days of each other.

Waterborne disease outbreaks associated with pools often have been caused by a person with diarrhea or by a person with recently resolved diarrhea who is still shedding the pathogenic viruses or parasites, using the pool and contaminating it. *Cryptosporidium* and enteric viruses are relatively resistant to routine chlorine disinfectant and have caused pool associated outbreaks in this manner. Pool users exposed to the contaminated water can contract an intestinal infection and spread it to others. Routine pool chlorination cannot be relied upon to decrease these infection risks. To prevent pool water from becoming contaminated and thereby causing outbreaks, it is necessary for pool users with active diarrhea or who have had active diarrhea within the previous 14 days not to enter the pool.

Once an outbreak caused by contaminated pool water occurs, it is important to recognize the outbreak as soon as possible and to intervene so that fewer people are at risk for infection. An outbreak at a California recreational water park in 2005 continued for weeks causing over 200 illnesses. Despite knowing that several lifeguards and some pool users were having diarrhea, the park manager did not report these illnesses to the local health department. This proposed language is reasonably necessary to allow local health officials to conduct appropriate communicable disease investigations and to take appropriate actions to stop an outbreak from spreading.

**Subsection 65541(d)** requires signage at all public pools restricting pool usage by pool users with recent or active diarrhea. This subsection is reasonably necessary to protect public health and safety because diarrhea is a common means of spreading disease in public pools and ancillary facilities as explained in subsection 65541(c) above. The proposed diarrhea sign is not required as a design or construction rule or requirement but rather is reasonably necessary as a public health and safety notification to maintain bacteriological and chemical water quality and clarity standards at public pools. Note that only public pools that are constructed, altered or renovated after September 1, 2012, are required to post such a diarrhea sign pursuant to Title 24, California Building Code section 3120B.11. The proposed subsection 65541(d) would require all public pools, regardless of when they were constructed, to post a diarrhea sign. This provision is reasonably necessary to make all public pools reasonably safe and able to

comply with the bacteriological and chemical water quality and clarity standards of CCR Title 22.

**Section 65543. Wading Pool – Water Clarity:** This section is proposed to be deleted as the water clarity requirements for a wading pool are the same as for all public pools. The requirements of this section are duplicative with those found in section 65527.

**Section 65545. Public Pool Closure:** This section specifies the conditions for pool closure and is a non-substantive amendment to improve clarity.

**Section 65546. Fecal, Vomit, Blood Contamination or Drowning Response:** This new section specifies reasonably necessary procedures to follow in responding to fecal, vomit, blood contamination or drowning response so diseases associated with these body fluids are not spread to other pool users and employees. The incidence of recreational water borne diseases is on the rise. Of special concern is the incidence of *Cryptosporidium* as these pathogens require very specific procedures to ensure adequate pool disinfection. The instructions in this new section follow the guidance developed by CDC. They provide the most current information to the pool operator regarding the procedures to follow in order to disinfect the pool following such an incident. Subsection 65546(b) also establishes documentation and record keeping requirements that the pool operator must follow and make available for inspection by the enforcing agent. These requirements are reasonably necessary to protect the health and safety of pool users and pool employees.

**Section 65547. Compressed Chlorine Gas Safety Requirements:** This section is necessary for amendment because Section 3135B, Title 24, California Building Code contains the requirements for chlorine gas safety. Deleting most of this section eliminates duplication between CCR Title 22 and Title 24, California Building Code and should eliminate confusion for pool owners and enforcing agents.

**Section 65549. Replacement of Equipment or Appurtenances:** This section is proposed for repeal because it is unnecessary. The manufacturer's equipment operation and maintenance instructions provide the details regarding when and how water treatment systems are to be maintained or replaced. Section 65535 proposes requirements for public pool site maintenance. If the appurtenances or larger systems need replacing, the project falls under Title 24, California Building Code and outside the scope of CCR Title 22 routine maintenance requirements to meet sanitation, healthfulness and safety standards.

**Section 65551. Cleaning of Ancillary Facilities:** Subsection (a) is proposed to be amended in order to use broad language more easily understood by the regulated community. The proposed wording requires cleaning and maintenance of all ancillary facilities with examples of particularly problematic areas at public

pool sites. Subsections (b) and (c) are amended for clarity. Subsection 65551(d) is a proposed new subsection requiring waste receptacles for pool users' trash in toilet facilities. This requirement reduces debris that can cause slip and fall injuries, spread contamination, and be blown or dropped into the pool water. Subsection 65551(e) adds a prohibition of duckboards and footbaths because these harbor and promote bacterial and fungal growth that can be harmful to pool users and can spread easily to others. Each of these subsections is reasonably necessary to protect the health and safety of public pool users.

## **REASONABLE ALTERNATIVES CONSIDERED**

To assess reasonable alternatives to the proposed regulations, CDPH researched current industry standards and procedures for maintenance, operation, sanitation and safety at public pools. CDPH reviewed numerous public health research publications for updated information on public pool health and safety concerns and how to set standards to reduce or avoid risks to pool users. CDPH staff consulted with local health officials from different parts of California to evaluate the scope and seriousness of any new health or safety problems associated with public pools.

In reaching its decision, CDPH relied heavily on public pool research and recommendations by the CDC and WHO. CDPH also reviewed regulations and standards from other states including those of New York, Washington and Ohio.

CDPH has proposed the only reasonable alternative for amending the existing pool regulations that reasonably interprets and implements H&S Code sections 116025 through 116068. This proposal meets CDC, WHO and current public health standards and practices for public pools. The proposal amends public pool regulations to address public health research, data and findings about how diseases are spread at public pools and how to reduce the risk of spreading diseases to and between pool users. The proposal implements best practices to reduce drowning incidents, slip and fall accidents, and decrease risks to the health and safety of pool users. It amends confusing language in the existing regulation text. The proposal repeals duplicative and outdated public pool construction standards that currently exist in both CCR Title 22 and Title 24, California Building Code and that should be located only in Title 24. It also makes CCR Title 22 and Title 24, California Building Code consistent with each other to increase clarity in the overall public pool regulatory scheme for all of California. One key difference between the current regulations and this proposal is the adoption of some performance based standards, leaving decisions about how to comply with the regulations and standards to the public pool owners and operators rather than to the enforcing agents or CDPH. Finally, this proposal amends antiquated language and syntax in the regulations and reorganizes definitions and lists in alphabetical order for clarity.

The proposed regulations could result in a potential increase in costs for some public pool owners whether they are small businesses, local government entities or State public pool owners. Relative to the yearly cost to operate a public pool, these costs are minimal. Most public pool operators will see no or only a minimal increase in costs.

While CDPH could suggest no changes to the existing regulations or standards that are not protective of public health and safety, these alternatives are not reasonable in light of the risks to pool users and employees.

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**Economic Impact Analysis as Required by Government Code  
Section 11346.3(b):**

As to these proposed regulations, CDPH has made an initial determination that no reasonable alternative considered or otherwise identified and brought to its attention would be more effective in carrying out the purpose for which this action is proposed, or would be as effective as and less burdensome to affected private persons than the proposed action or would be more cost effective to affected private persons, or as effective in implementing the intent of H&S Code sections 116025 through 116068.

***EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT STATEWIDE  
ADVERSE ECONOMIC IMPACT DIRECTLY AFFECTING BUSINESS***

***Background, Assumptions and Calculations:***

The following information was developed in part based on information from local health jurisdictions and meetings with the California Conference of Directors of Environmental Health Swimming Pool Technical Advisory Committee for Northern California, Recreational Health Committee of the California Conference of Directors of Environmental Health and the Bay Area Public Pool Information Sharing Committee. CDPH has also been in contact with the National Swimming Pool and Spa Industry Association regarding the costs associated with the proposed regulations. CDPH surveyed local public health departments throughout the State in 2011 and in 2012 to see how many public pools existed in each jurisdiction, and of those, how many were public spas and water parks. The local public health departments were further asked how many new pools, spas and water parks had been permitted in 2009 and 2010. CDPH consulted with several local public health departments to determine the extent the changes in lifeguard duties, signage, water chemistry and the proposed data reporting would affect typical public pool operations and costs. CDPH requested specific information such as how much water is in average large public pools, small apartment pools, public spas and municipal pools, and water and sewer rates. CDPH received information from 31 counties. This economic impact analysis is based on these sources.

The data show that CDPH has supervisory authority over more than 50,000 public pools, 16,000 public spas, 150 interactive water parks and features as well as other types of public pools in 59 local jurisdictions throughout California. Of the known public pools, CDPH estimates 4,000 of those pools are small businesses. The number of public pools has been relatively stable for many years, and CDPH does not anticipate that the number will change significantly as a result of these proposed regulations.

Public pools are currently inspected by local public health agents or CDPH inspectors. CDPH has regulated public pool construction, operation,

maintenance, sanitation and safety for decades. Most public pool owners and operators already meet many or all of these proposed regulations because they reflect best practices and general industry standards recommended by CDC and WHO. CDC and WHO established recommended public pool standards based on an extensive review of public health research, data and reports of real public health problems and experiences at public pools.

The cost differential to comply with the proposed regulation versus the existing regulations will differ from pool to pool and business to business given different pool structures, water volume, water treatment equipment, staff costs, water rates and whether the pool currently uses cyanuric acid. For some public pools that currently maintain a high cyanuric acid level of 100 parts per million (ppm), this regulatory proposal to reduce the maximum level of cyanuric acid (CYA) from 100 ppm to 50 ppm would require a one-time draining of half the pool water and replacement with tap water. Additional chlorine may be needed to maintain Free Chlorine Residual levels proposed in the new regulations. Additional costs of using approximately 10% more chlorine could be offset by savings on the expense of cyanuric acid. Assuming an average moderate sized public pool costs \$8,000 per year to maintain and that the pool uses cyanuric acid, it could cost an average of \$200 to comply with these proposed regulations the first year which equals a one-time 1.025% increase cost for each public pool.

With these assumptions, CDPH calculated the cost to replace half the water in various public pools to reduce the cyanuric level concentration. The cost to replace water in an apartment public pool with 23,000 gallons at 50 ppm cyanuric acid would be \$29.30. If the water district has a monthly flat rate so there would not be an additional cost to dilute the cyanuric acid. Large hotel, municipal pools and water parks generally do not use cyanuric acid for disinfection because liquid chlorine is cheaper so this proposal assumes few or no large public pools would change out water to comply with the proposed regulation. Assuming there is a large public pool using cyanuric acid that would need to replace 50% of its water and if the pool contains an average of 120,000 gallons, it would cost an additional \$480 at \$.004 per gallon to refill half the pool.

According to the Los Angeles Department of Public Health, their average public spa holds 1,000 gallons of water with an average pool ranging in size from 18,000 to 25,000 gallons of water. Almost all public pools are filled on metered and tiered water rates. The local public health department estimated that at \$.004 cents per gallon, it would cost an average spa \$2.00 to replace half the water (500 gallons X .004 cents = \$2.00 water cost). For a small apartment or motel pool of 18,000 gallons, it would cost \$72.00. For a large hotel or municipal public pool of 120,000 gallons, if they used cyanuric acid which is unlikely, the cost would be \$480 (120,000 X .004 cents = \$480).

For San Diego City commercial customers, the total bill for commercial and industrial customers is a combination of the monthly meter base fee, based on

the size of the meter, and the amount of water used. These customers pay \$3.757 per one hundred cubic feet of water (HCF) or (\$.005 per gallon). For San Diego customers, the cost to comply with the proposed regulations would be slightly higher than in Los Angeles or Sacramento.

Public spas are currently required to change all of their spa water on a regular basis depending their bather load and existing water quality. Reducing the cyanuric acid concentration below 50 ppm can easily be done at no or a low additional cost. According to discussions with local Sacramento County public health officials, the new proposed regulations should not be a significant additional cost to these spa operators. Assuming the average public spa holds 1,100 gallons, replacing half the water would require 550 gallons of new water. If the spa is in a jurisdiction with flat water rates, there would be no additional cost. If pool water use is metered, they system is likely to be charged on a tiered rate, that is, the more water used, the higher water rate paid. For the City of Sacramento, there is a monthly rate of \$0.9156 per 100 cubic feet of water so on the average, replacing 550 gallons at a spa would be an additional \$2.52 per month.

For the rare large public pool that has metered water rates and uses cyanuric acid, CDPH has made the assumption that replacing half the pool water would put the public pool facility in the higher tiers and higher rates. However, rates at most of the largest facilities in the State may be lower than commercial rates, especially in cases where the pools are owned by a public entity.

***A. Potential Costs to Businesses Resulting from the Proposed Amendment:***

The major changes resulting from the proposed amendments affecting public pool operating standards would be:

- The regulations are more clear as to what is a public pool. This amendment does not change the fact that the existing public pool regulations apply to all public pools, but rather these amendments make that more specific. These amendments do not significantly increase costs to businesses in- or out-of-state as they maintain the status quo relative to the ability of California businesses to compete with the businesses in other states.
- The proposal makes non-substantive grammatical, phrasing and numbering changes for clarity. These changes will not have a significant statewide adverse economic impact on business.
- The proposal makes changes to bring the regulations current with existing public health and safety practices and standards. These different

standards and practices could add some costs to operate some public pools. For example, swim suits, towels, caps and headgear must be cleaned after each use under the proposed regulations. However, pool operators are not required to provide these items to pool users so there might be no additional cost at all. If pool operators do elect to offer this equipment, disinfecting wipes costs pennies each, and the work can be performed by current staff. Public pools without a diarrhea sign will need to purchase and install such a sign. None of these proposed changes are anticipated to have a significant statewide adverse economic impact on business.

- The proposed regulations offer alternative performance based methods of compliance rather than prescriptive standards. For example, pool operators may use other disinfectants for pool water rather than just chlorine. Pool operators may use one of several methods to determine bacteriological quality of pool water. These changes may result in a minor cost saving to businesses or a minor increase in costs depending on the pool operator's decisions and current practices. If the operator opts for continuing to use chlorine, there will be no additional cost. There is no significant statewide adverse economic impact resulting from offering pool operators various chemical options and performance rather than prescriptive options.
- The proposed regulations define the maximum and minimum limits for some chemicals and water characteristics of pool water. There is a potential minor cost to add additional chemicals to meet water quality standards. The costs could also decrease if fewer chemicals or less expensive chemicals are needed. Other water treatment costs such as purchasing pH strips will be the same as the existing regulations. The greatest potential cost is for pools with high levels of cyanuric acid as these public pools may be required to drain approximately 50% of the pool water and replace that water with tap water. Most large pools do not use cyanuric acid, and it is not possible to estimate how many small pools currently use this chemical at a high concentration.
- Existing public pool regulations require pool operators to have safety equipment as specified in the existing regulations. The proposed regulations generally clarify those requirements, and in some cases, the proposed amendments offer some additional safety alternatives to the pool operators. These changes will not have a significant statewide adverse economic impact on business.

- The proposed regulations require that if lifeguards are on duty, they are restricted to performing only life guard services. A safety manual must also be purchased or written for their use. Other staff will be required to perform non-lifeguard services handled by some lifeguards today. With lifeguards earning an average of \$10 per hour, the additional cost to meet this new requirement will be the number of hours of non-lifeguard activities currently performed by lifeguards. Given most public pools already have safety manuals and limit lifeguards to only performing lifeguard duties, the cost to comply with this requirement should be minor. Either way, these safety requirements will not have a significant statewide adverse economic impact on business.
- The proposed regulations require the operator to test pool water quality and record responses to fecal, vomit, diarrhea and drowning incidents. The data record can be in the form of a free printed log from the CDC website,<sup>7</sup> a small notebook book, or data records on a computer. Given public pools already must take data daily, these new requirements could add an average of five minutes of additional personnel time per incident to the cost of operating each public pool.<sup>8</sup> CDPH has determined that this additional cost is insignificant in light of the overall costs to own, operate and maintain a public pool. These changes will not have a significant statewide adverse economic impact on business.
- Currently under CCR Title 22, pool owners and operators must maintain data records for one year. The proposed regulations will require records to be maintained for two years at the public pool site. These changes are minor and will not have a significant statewide adverse economic impact on business.

This proposal has been circulated to and reviewed by affected parties including businesses and business associations in the pool industry. No comments regarding the economic impact of the proposal were received.

Although the proposed action will directly affect businesses statewide, including small businesses, CDPH concludes that the economic impact, including the ability of California businesses to compete with businesses in other states, will not be significant. The reasonable range of increased direct costs that a public

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<sup>7</sup> Example of free Water Contamination Response Logs can be found in Word and PDF format at <http://www.cdc.gov/healthywater/swimming/pools/disinfection-remediation-pools-hot-tubs.html> for use by public pool operators.

pool might incur in reasonable compliance with the proposed regulations is up to \$200 per year per pool.

One indirect impact of the regulations will be to improve the quality of pool user experiences and thereby improve the image and public perception of public pools. It is likely that the proposal will make some small businesses increase revenues with increased tourist visits. It is also reasonable to assume that there will be decreased apartment turnover because of improvements to the image and public trust in having use of cleaner and safer public pools.

***B. The creation of new businesses or the elimination of existing businesses within the State of California.***

The proposed regulatory package is not expected to impact the creation or elimination of businesses for the reasons stated above.

***C. The expansion of businesses currently doing business within the State of California.***

The proposal is not expected to impact the expansion of businesses in California because public pools must already comply with similar health, sanitation and safety regulations.

***D. The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment.***

The proposal increases the health and welfare of California residents and worker safety, and it protects the State's environment because the proposal updates public pool water quality standards, health and safety requirements, and operation and maintenance procedures in accordance with public health recommendations and best practices of the pool industry. These updated standards will better protect the public pool users, including lifeguards and other pool employees, from the spread of contagious disease, slip and fall injuries, and other health and safety issues at public pools.

## **STATEMENTS OF DETERMINATIONS**

### **ALTERNATIVES CONSIDERED**

CDPH has determined that no reasonable alternative considered by CDPH or that has otherwise been identified and brought to the attention of CDPH would be more effective in carrying out the purpose for which this action is proposed, would be as effective and less burdensome to affected private persons than the proposed action or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

### **LOCAL MANDATE DETERMINATION**

CDPH has determined that the regulation would not impose a mandate on local agencies or school districts, nor are there any costs for which reimbursement is required by part 7 (commencing with Section 17500) of division 4 of the Government Code.

### **ECONOMIC IMPACT ANALYSIS**

CDPH has made an initial determination that the proposed regulations would not have a significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states.

Based on the economic impact analysis, CDPH has determined that the regulation would not significantly affect the following:

1. The creation or elimination of jobs within the State of California.
2. The creation of new businesses or the elimination of existing businesses within the State of California.
3. The expansion of businesses currently doing business within the State of California.

The economic impact analysis shows that the proposed regulatory action will benefit the health and welfare of California residents, worker safety, and the State's environment.

### **EFFECT ON SMALL BUSINESSES**

CDPH has determined that there may be a financial impact on some small businesses to comply with the regulations. Current regulations already require public pool operators to provide safety equipment and signs, test and record pool contaminant levels, maintain water treatment systems, and comply with numerous public pool health, safety and sanitation requirements. The proposed regulations should have no financial impact or only a small financial impact on small business owners operating public pools in the State if the pool operators currently operate and maintain their public pools in compliance with existing health, safety and sanitation regulations. If the small business uses cyanuric acid in its public pool, there will be additional costs to replace water to meet the proposed regulations. If the public pool does not currently have a posted diarrhea sign, this will also add to the costs on small businesses.

### **HOUSING COSTS DETERMINATION**

CDPH has determined that the proposed regulations may potentially have a small financial impact on multi-unit housing with a public pool for the same reasons stated above. Current regulations already require public pool operators to provide safety equipment and signs, test and record pool contaminant levels, maintain water treatment systems and comply with numerous public pool health, safety and sanitation regulations. The proposed regulations should have no or only a minor increase in costs for public pool operators in the State who do not use cyanuric acid and also operate and maintain their pools, equipment and ancillary facilities properly. There will be an additional cost for multi-unit housing with a public pool to replace water with high cyanuric acid levels and to install a diarrhea sign.

### **ADVISORY GROUP OR OTHER AGENCY COMMENT, CONSULTATION AND/OR APPROVAL, INCLUDING CALIFORNIA CONFERENCE OF LOCAL HEALTH OFFICERS**

This regulation proposal will be submitted to the California Conference of Local Health Officers for review and written comment. The California Conference of Directors of Environmental Health was instrumental in the development of the regulation amendments and the proposal will be submitted to them for written review and comment.