[CHAPTER 1]

California's Second Century of Pesticide Regulation

California has regulated pesticides for more than a century. Through their Legislature, its residents have established a comprehensive body of law to give the state's pesticide regulators the tools needed to control pesticide sales and use, and to assess and control potential adverse effects. The state's first pesticide-related law was passed in 1901 and since the 1970s, a body of increasingly science-based pesticide law and regulation has come into being.

The mission of the California Department of Pesticide Regulation (DPR) is to protect human health and the environment by regulating pesticide sales and use, and by fostering reduced-risk pest management. DPR's strict oversight begins with product evaluation and registration and continues through statewide licensing of pesticide professionals; evaluation of health effects of pesticides through risk assessment and illness surveillance; environmental monitoring of air, water and soil; residue testing of fresh produce; and encouraging development and adoption of least-toxic pest management practices through incentives and grants. In 2011, DPR had an annual budget of roughly $79 million and a staff of about 415, with a high proportion of scientists from many disciplines. DPR partners with county agricultural commissioners (CACs) and their staffs who enforce pesticide laws in their counties.

Early Pesticide Regulation: Focus on Consumer Fraud

Arsenic, cyanide and other natural poisons have been used for centuries to kill insects and rodents in homes and on farms. In the mid-1800s, farmers found they could use a common, arsenic-containing paint pigment, called Paris green, to kill insects in their fields. Other arsenic-based insecticides followed and in the 1880s, French grape growers accidentally discovered that a combination of hydrated lime and copper sulfate could fight powdery mildew fungus. Since labor for weed removal was cheap and readily available, farmers were not generally interested in using herbicides.

Into the early decades of the 20th century, use of insecticides and fungicides was not widespread, confined largely to high-value tree fruit crops. Although a few scientists expressed concerns over residues, arsenic was not considered harmful in the small amounts remaining on sprayed produce. The chemical was commonplace, used to color paper, candles, artificial flowers, fabrics, toys, plates, carpets and clothing. Little thought was given to the potential hazards of cumulative exposure.

Government regulation of pesticides focused on protecting users from fraud by ensuring product quality. Pesticides and many products of the time, including foods and drugs, were often adulterated or mislabeled. It was not unusual for manufacturers to make extravagant claims for pesticide products that were useless at best and sometimes even destructive to the plants on which they were used.

New York passed the nation's first pesticide law in 1898. California's first law, passed in 1901, was concerned only with preventing consumer fraud in sales of Paris green, the most widely used insecticide. Dealers were required to submit product samples to the University of California (UC) agricultural experiment station with documentation describing brand name, pounds in each package, name and address of manufacturer, and percentage of Paris green. UC analyzed samples and sellers of deficient products were guilty of a misdemeanor. Resulting fines ranged from $50 to $200 ($1,100 to $4,400 in 2011 dollars).

The laws previous to 1901 had, as their principal concern, the regulation of the sale of Paris green, as this substance was the first to be made commercially.

— The Workings of the California Insecticide Law (1914)

Many states have laws to regulate only insecticides, or insecticides and fungicides, but all pest control materials are subject to the Economic Poisons Article of the Agricultural Code in California.

— Economic Poisons: California Law and Its Administration (1944)

In 1910, Congress passed the Federal Insecticide Act, a labeling law focused on protecting consumers from ineffective pesticides or deceptive labeling. The statute applied to both insecticides and fungicides, not previously covered by any laws. However, the legislation contained neither a federal registration requirement nor any significant safety standards.

California's parallel legislation, the State Insecticide and Fungicide Act of 1911 (Chapter 653), was also concerned mainly with mislabeling and adulteration but went beyond federal law. It required manufacturers, importers and dealers of insecticides and fungicides to register their products for a $1 fee with UC, submitting a statement on "the component parts of the substances which they proposed to offer for sale." Proper labeling was required with the product name, manufacturer's name and address, and place of manufacture. The registration application had to be accompanied by a chemical analysis showing "the percentage of each substance claimed to have insecticidal value, the form in which each is present and the materials from which derived, and the percentage of inert ingredients." This was "to enable the user to know the insecticidal value of the material, and also to make the manufacturer more careful as to the composition of his products." This provision was described as the "most radical of any of the requirements, and was the one most seriously objected to by those who wished to oppose the law … Practically the only serious objections came from the makers of 'secret' remedies who had been profiting by the use of fictitious names."

The statute required UC to analyze all registered pesticides yearly. However, by 1913, the number of registered product grew to about 10,000, making annual analysis impractical. The law was amended that year (Chapter 612) to delete the requirement for yearly analysis. At the same time, lobbying by manufacturers and dealers prompted the Legislature to delete the mandate for detailed product labeling, requiring instead a "general" statement of the contents. Another 1913 bill (Chapter 211) exempted several classes of products from registration, including household insecticides (for example, flypaper, mothballs and ant poison), sheep dip, lice killer and sulfur. Amendments in 1916 provided for an extra registration fee and for UC to issue certificates of registration.

In 1919, the Legislature created (Statutes of 1919, Chapter 325) the California Department of Agriculture (CDA). Transferred to the new department were duties previously handled by several state boards and commissioners, including those overseeing horticulture, dairy farms, viticulture, cattle protection, produce marketing, and weights and measures.

In 1921, legislation (Chapter 352) brought the county horticultural commissioners (later to be called agricultural commissioners) under CDA "supervision and control." Commissioners had no statutory role in overseeing pesticide use. Their assigned duties included "protection of [agriculture and preventing] the introduction of insects and diseases, or animals, injurious to fruit, fruit trees, vines, bushes or vegetables." Another duty was "standardization of fruits, vegetables, and other plant products," ensuring that fruits and vegetables meet minimum quality and labeling standards.

In its first annual report in 1920, CDA said a new law was needed to regulate pesticide manufacture and sale to:

"Encourage the manufacture and sale of standard and well-tried remedies.

"Discourage the sale of poorly compounded or low-grade remedies prepared in a poorly equipped factory, or by the careless manufacturer.

"Prohibit the sale of worthless preparations placed on the market either through ignorance or with intent to defraud.

"Prohibit the sale of preparations which are injurious to cultivated plants or domestic animals, or are a menace to the public health.

"Restrain the activities of the clever fakir who profits by falsely claiming some new discovery or some mysteriously acting poison, and in reality is selling some common and well-known substance under camouflage of coloring matter or odor."

The Legislature responded by passing the Economic Poison Act of 1921 (Chapter 729). (*Economic poison* is a synonym used for *pesticide.* Legislation in the 1990s substituted code references to *economic poison* with the more commonly understood *pesticide.*) It transferred regulatory authority over pesticides from UC to the agriculture department and expanded regulatory authority beyond insecticides and fungicides. A related statute (Chapter 606) allowed the new department to set up a "division of agricultural chemistry" to better carry out its new responsibilities.

A 1921 department report called the Economic Poison Act "a novelty in legislation of this type, there being no other law, state or national, regulating the manufacture and sale of rodent poisons and weed poisons." The legislation gave CDA authority to control not only the manufacture and sale but also the use of pesticides.

The department recognized local enforcement as essential: "The state is a large one," the department said, "and to attempt to distribute a corps of inspectors large enough to detect fraudulent practices would be a hopeless task … Arrangements are now being made for the appointment of five or six county horticultural commissioners to act as collaborators in the enforcement of the Economic Poison Act."

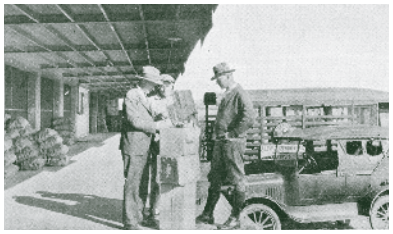
The Economic Poison Act required that applications for pesticide registration include information on how the product was formulated (but not necessarily its ingredients), and a sample to assure quality standards. CDA was authorized to cancel or deny registration of products found detrimental to agriculture or public health or "shown to have little or no value for the purpose … intended." Throughout the 1920s, CDA used its in-house labs to "test the efficacy of insecticides and fungicides for which it appears extravagant claims have been made." Evidence gathered was used to file misdemeanor charges against the manufacturer if the product was already registered, or to cancel or refuse registration.

CDA's authority to deny or cancel registration of pesticides from a manufacturer "attempting to sell fraudulent or worthless insecticides" was upheld in a 1925 appellate court decision, overturning a lower court that had declared the 1921 Economic Poison Act unconstitutional *(Gregory v. Hecke).*

Although CDA had the authority to refuse to register a pesticide if it was proven ineffective, without accompanying authority to require data to evaluate a product before it was registered, the department was forced to grant registration. The Legislature closed this loophole in 1929 (Chapter 604) when it gave the department authority to require "practical demonstration as may be necessary" to determine that products were effective and were not "generally detrimental or seriously injurious to vegetation." Although the statutes allowed cancellation based on health or environmental problems, the acknowledged focus of programs of the time was adulteration and misbranding. CDA's 1934 annual report said its program "affords protection to the consumer as to quality and quantity and to the manufacturer by preventing unfair competition." Hundreds of product samples were analyzed each year and about 30 percent were routinely found "extensively deficient." By the 1940s, that percentage had dropped to about 10 percent and deficiencies were attributed more to "irreducible error in manufacturing technique and not to an attempt to defraud." Modern manufacturing techniques in recent decades have all but eliminated product quality problems.

The 1920s: Food Residues Become a Concern

Public concern about pesticide residues on food did not arise until the 1920s. Pesticide use by farmers was increasing, as were reports of illnesses and well-publicized seizures of fruit with high arsenic levels by health officials in major cities. In 1927, CDA began analyzing small quantities of fresh produce for residues. In 1927, the Legislature passed the Chemical Spray Residue Act (Chapter 807) which made it illegal to pack, ship, or sell fruits or vegetables with harmful pesticide residues. It also set allowable residue levels (*tolerances*) that mirrored those set by the federal government that same year. The legislation established monitoring



When any spraying residue exceeds it tolerance the consumer's interest becomes paramount, and all fruit and produce must comply with the law when marketed. This is accomplished by adequate inspections and analyses of fruits and vegetables in retail and wholesale markets…

— Economic Poisons: California Law and Its Administration (1944)

Even those of us who have lived in California for many years scarcely realize the important lead which California has taken and is taking in the subject of pest control.

— 1922 department annual report

programs designed not only to safeguard the consumer but also to certify California-grown fruit as free of excess residues.

In 1934, the Economic Poison Act was amended to prohibit pesticide sales in anything other than the registrant's container, with "name and percent of every ingredient … intended for use on or sold for application to any food crop in such a way as to leave a residue deleterious to health must be plainly stated on label." *Deleterious* residues were defined as residues of arsenic, fluorine and lead, the only chemicals for which the federal government had tolerances established. CDA expanded its monitoring program to sample for these residues.

In the late 1930s and 1940s, residue sampling expanded to test for newly introduced synthetic organic pesticides like DDT. In 1949, the Spray Residue Act was amended to expand the definition of potentially harmful spray residues to encompass "any pesticide or constituent thereof which on produce is harmful to human health in quantities greater than a maximum amount or permissible tolerances established by rules and regulations of the director."

Today, the residue monitoring program is the largest state program of its kind. It continues to sample fresh produce, taking samples from wholesale and retail outlets, distribution centers, and farmers markets. (*See Chapter 9 for more information on DPR residue monitoring.)*

New Pesticides Prompt New Controls

By the mid-1930s, a wider variety of pesticides was being used, including pyrethrins, rotenone, zinc sulfate, petroleum oils and the new products of organic chemistry. In addition, as CDA reported in 1944, "chemists (have) synthesized emulsifiers, wetting agents, solvents and similar adjuvants or accessory substances which … greatly facilitate accomplishment of pest control."

That same year, the department expressed concern about the "hazards of new products. The rapid increase in the use of synthetic organic chemicals," the department said in its annual report, "illustrates the need for study to provide for intelligent handling of products of this nature. Possible industrial health hazards of new products should be anticipated. Problems constantly arise as to hazards to workers not only in mixing of chemicals but in making field applications. When a chemical is not acutely poisonous, generally little is known as to the extent of its injuriousness. Information should be at hand with regard to insidious chronic poisoning of newly developed materials, as well as to their acute toxicity." (It would be another 40 years before the state's pesticide regulators received legal authority and developed the scientific expertise to begin the task of collecting data and analyzing the potential long-term effects of pesticide exposure.)

By the late 1940s, farmers were using far less inorganic arsenic-, lead- and fluorine-based compounds. New organic compounds like DDT, 2,4-D and ethyl parathion were revolutionizing agriculture, increasing yields and reducing the need for labor-intensive weed and insect control methods.

The number of registered pesticides continued to grow as manufacturers rushed to market the new products of organic chemistry. In 1925, there were about 1,700 products marketed in California for pest control. In the next 10 years, the total had doubled to about 3,500 products and in 1945, 7,000 pesticide products were offered for sale. Eleven years later, there were nearly 12,000 pesticide products on the market. The number of registered products has remained in that range since then. In 2011, there were about 13,000 pesticide products registered in California, containing about 1,000 active ingredients, including spray adjuvants. Federally, there are about 18,000 products registered by the U.S. Environmental Protection Agency (U.S. EPA.)

In 1947, Congress responded to the increasing use of pesticides by enacting the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). This law governed the registration, sale, possession and use of pesticides. It required that pesticides distributed in interstate commerce be registered with the U.S. Department of Agriculture (USDA). Like earlier laws, FIFRA was more concerned with product

Preemption: Federal, State and Local Jurisdiction of Pesticide Use

Preemption refers to laws at one level of government taking precedence over laws of a lower level. As such, no entity at the lower level can pass a law inconsistent with the law at the higher level.

Federal laws will take precedence over state and local law, and state law can take precedence over local law. Once Congress has passed legislation, any state or local law that conflicts with federal law is invalid. Even if there is not a direct conflict, if the federal law expressly provides that it controls the entire field regulated or if that intent can be implied from the comprehensive nature of the regulation, federal law has control over any state or local law regulating the same field. In the field of pesticides, federal law (the Federal Insecticide, Fungicide, and Rodenticide Act, FIFRA) clearly states that only the federal government has authority over pesticide labeling. In other words, no state or local government can dictate what is on a pesticide product label. However, a state can refuse to allow registration of a product and therefore the possession, sale and use of any pesticide not meeting its own health or safety standards. States can also adopt regulations more protective of health and the environment than on a product label.

The California Constitution also allows the state to preempt local jurisdictions. The Constitution states that city councils or boards of supervisors may pass laws (called *ordinances* at the local level) provided they do not conflict with state law. However, California law (Chapter 1386[1], Statutes of 1984, FAC Section 11501.1) states that no local government "may prohibit or in any way attempt to regulate any matter relating to the registration, sale, transportation, or use of pesticides, and any of these [local] ordinances, laws, or regulations are void and of no force or effect."

The 1984 legislation was in response to a State Supreme Court ruling that same year in *The People v. County of Mendocino*. In that case, the State Attorney General had sued the county, arguing that state law preempted a 1979 initiative approved by Mendocino County voters to ban the aerial application of phenoxy herbicides in the county. The herbicides were used by a forest products company to inhibit hardwood growth in favor of conifer growth. The initiative followed a 1977 incident in which an aerial herbicide application drifted nearly three miles onto school buses.

A lower court ruled in favor of the state, finding that California law preempted county regulation of pesticide use. However, in 1984 the State Supreme Court disagreed, ruling that "the Legislature has not preempted local regulation of pesticide use." The court ruled that Mendocino's "initiative ordinance neither duplicates nor contradicts any statute," and that voters in any California county could ban the use of pesticides in that county, even if state and federal law allowed such use.

The court stated, "The legislative history (of FIFRA) does not demonstrate a clear Congressional intention to preempt traditional local police powers to regulate the use of pesticides or to preempt state power to distribute its regulatory authority between itself and its political subdivisions."

In response, the Legislature passed a bill stating it is "the intent of the Legislature to overturn" the Supreme Court ruling, and that "matters relating to (pesticides) are of a statewide interest and concern and are to be administered on a statewide basis by the state unless specific exceptions are made in state legislation for local administration."

In an unpublished 1986 opinion, the Court of Appeal for the Third Appellate District found FAC Section 11501.1 constitutional and in so doing invalidated a Trinity County local pesticide ordinance.

Local governing bodies may pass ordinances that regulate or restrict pesticide use in their own operations. For example, a city council may pass an ordinance that restricts or bans pesticide use in municipal buildings and in public parks. Similarly, a school district board can decree that certain pesticides cannot be used in schools.

In 1991, in *Wisconsin Public Intervenor v. Ralph Mortier*, the U.S. Supreme Court ruled that, absent state law to the contrary, federal pesticide law does not preempt local regulations dealing with the use of pesticides. The U.S. Supreme Court ruled that FIFRA "leaves the allocation of regulatory authority to the absolute discretion of the states themselves, including the options of … leaving local regulation of pesticides in the hands of local authorities under existing state laws." However, the ability of states to preempt local authority was left in place. Because California law clearly forbids local ordinances, the 1991 U.S. Supreme Court decision had no effect in California.

In 1996, legislation (Chapter 361, AB 124) clarified but did not significantly alter the Department of Pesticide Regulation's preemption authority. The legislation required the department to notify any local agency that proposes an ordinance governing the sale, use or handling of pesticides whenever the department determines state law preempts the ordinance. The bill also required the department to file court action, if necessary, to invalidate the ordinance and prohibit its enforcement.

[1] Appendix A lists this and other statutes noted in this chapter and shows the related code section it amended or added. Statutes and related code sections deleted or superseded by later legislation have been omitted.

We consider persuasion a better enforcement method than threats, though at times prosecutions are necessary. It is our aim to have an efficient rather than a menacing force.

— 1936 department annual report

quality and efficacy than with safety. However, the statute declared pesticides "misbranded" if they were harmful to people, animals or vegetation (except weeds) when properly used.

Major defects in the new law soon became clear. The registration process was largely a hollow formality since USDA had no power to refuse registration, even for a chemical considered dangerous. The only way USDA could deal with a unsafe product was to take legal action for misbranding or adulteration, with the burden of proof on the government. Congress did not deal with this aspect of FIFRA until it changed the law to strengthen regulatory authority in 1964.

In California, regulators had clearer authority. Since the passage of the Economic Poison Act of 1921 and its 1929 amendments, CDA (and DPR) could cancel or refuse the registration of any pesticide determined to be ineffective, damaging to non-target organisms or detrimental to public health and safety when properly used. CDA also had authority to cancel or refuse registration to registrants who made false or misleading statements about their products.

FIFRA provided no authority to the federal government to regulate pesticide use in the field. That was not true in California, where state regulators had some authority over use practices since the 1920s. This became important with the dramatic increase in pesticide use in the late 1940s. Growers experimented with the new products, applying them in various ways on a variety of crops, sometimes with inadequate knowledge of their effects or toxicity. Drift caused damage to nontarget crops and killed livestock and honeybees. Improper applications caused injury and death to workers and others. Regulators realized they needed stronger, more targeted control measures.

Legislation in 1949 put a clear emphasis on safety and led to the state's first regulations that governed pesticide handling and imposed controls on certain pesticides with the potential to cause injury to people, crops or the environment. Permits were required to possess or use these pesticides. With passage of this statute, regulation of professional applicators moved from the county level to become a responsibility shared by the state and CACs. *(More information on permitting, licensing and local enforcement is in Chapter 7.)*

In 1949, state law was amended to expand state labeling requirements to adjuvants. In 1967, legislation (Chapter 15) gave the department clear authority to require registration and oversee the use of adjuvants. Adjuvants (emulsifiers, spreaders, wetting agents and other efficacy enhancers) must be registered as pesticides in California. The federal government does not require registration.

California's regulations continued to be fine-tuned throughout the 1950s as an increasing number of chemicals were introduced to the market. Detailed regulations were adopted, including buffer zones to protect crops and homes, and restrictions on nozzle sizes, wind speeds and other factors to limit drift.

The 1960s forever changed the way society viewed pesticides. Although problems had been apparent for some time—most noticeably, concerns about possible acute health effects and the increasing resistance of some pests to the new products—the signal event was the publication in 1962 of *Silent Spring*. Author Rachel Carson presented compelling arguments that pesticides and other chemicals were being used with little regard for their effect on human health or the environment. *Silent Spring* is widely considered to have sparked the modern environmental movement.

Over the following years, Congress passed several environmental statutes touching on pesticide regulation to various degree, including the Clean Water Act, Clean Air Act, Endangered Species Act and Occupational Safety and Health Act. In 1969, Congress passed the National Environmental Policy Act (NEPA), which required federal agencies to consider environmental matters before undertaking new actions. In 1970, Congress created the U.S. EPA to bring cohesion to expanding federal environmental programs. Both the USDA pesticide registration functions and U.S. Food and Drug Administration's tolerance-setting authority were transferred to U.S. EPA.

Functional Equivalency under the California Environmental Quality Act

The California Environmental Quality Act (CEQA), passed in 1970, requires state and local agencies to follow a protocol of analysis and public disclosure of environmental impacts of proposed projects. CEQA applies to most projects conducted by a public agency, supported by public funds or which must be permitted, licensed or approved in some way by a public agency.

In 1976, the State Attorney General issued an opinion on the roadside use of herbicides in Mendocino County. The Attorney General determined that when the county issued permits for the use of pesticides, it was a government activity subject to the provisions of CEQA. This meant that CACs throughout the state would have to prepare an environmental impact report (EIR) or a determination of no significant adverse impacts (negative declaration) before approving any of the more than 60,000 restricted material permits issued each year. Similarly, the department would be required to prepare an EIR or negative declaration before issuing any of roughly 11,000 pesticide product registrations each year.

The Legislature immediately placed a moratorium on applying CEQA to the pesticide regulatory program. In 1977, an Environmental Assessment Team was formed to prepare a "master" (programmatic) EIR covering the use of all registered pesticides throughout the state. After more than a year's work, the team concluded that the regulatory program lacked mechanisms to meet CEQA procedural requirements and that existing processes could not be easily adapted to serve. Also, the team concluded, "the magnitude of the state program prevents any reasonable attempt to consider in a single report all of the information CEQA requires for each pesticide regulatory decision."

The determination that the program was inadequate to meet the needs of CEQA led to the passage of AB 3765 (Chapter 308, Statutes of 1978). It required the department to establish rules and regulations that could be certified by the Secretary of the Resources Agency as the functional equivalent of an EIR or negative declaration. This certification means the agency managing the program does not have to prepare an EIR or negative declaration on each activity it approves. However, certified programs must provide other substitute documents. Although less expansive, these documents must assure an environmental review. The program must provide for consultation with other agencies, and public notice and comment.

To gain approval for certified status, the department expanded its review of data before registration, changed regulations relating to pesticide registration and evaluation, and set up procedures to ensure public notice of its proposed registration actions and decisions.

Regulations were also added to require CACs, before issuing restricted material permits, to evaluate the proposed application site and to consider feasible alternatives and mitigation measures if significant risk exists. The department also established the Pesticide Registration and Evaluation Committee to create a mechanism for interaction between the department and other state agencies that have responsibility for resources affected by pesticides.

In December 1979, the pesticide regulatory program was certified by the Resources Agency as functionally equivalent to the EIR requirements of CEQA. Any substantial changes in the certified regulatory program must be submitted to the Secretary of the Resources Agency for review. The Secretary has the authority to decide if the change alters the program so that it no longer meets the qualification for certification.

"Preparation of environmental impact reports … for pesticide permits would be an unreasonable and expensive burden on California agriculture and health protection agencies."

— 1978 legislation (AB 3765)

Representatives of eastern firms spent time in the Sacramento office discussing their advertising. They frankly stated that they wanted to make claims just short of the extravagance or falsity that would warrant filing criminal complaints, and they indicated that clearance of the text with California would help clear it in other states. There is sometimes a thin distinction between legitimate trade puffing and outright misrepresentation.

— 1954 department annual report

Creating a Science-Based Regulatory Agency

In 1969 (Chapter 1169[1]) and 1970 (Chapter 1092), California passed landmark legislation that required a "thorough and timely evaluation" of pesticides before registration and gave CDA clearer authority to establish criteria for studies to be submitted by pesticide manufacturers. This legislation also gave the department distinct authority to place restrictions on how pesticides may be used. The department was required to begin "an orderly program of continuous evaluation" of pesticides already registered and eliminate from use those posing a danger to the agricultural or nonagricultural environment. *(More information on registration is in Chapter 3; for continuous evaluation, see Chapter 4.)* In 1972, the department hired its first scientists to review data submitted to support registration requests. The department previously had relied on scientists at UC and other state agencies.

Legislation in 1972 (Chapter 225) changed the department name to the California Department of Food and Agriculture (CDFA) and the "Agricultural Code" to "Food and Agricultural Code." The changes recognized a broader mandate not only to promote and protect agriculture but also protect public health, safety and welfare.

Also in 1972, legislation (Chapter 794) gave CDFA primary responsibility for ensuring "the safe use of pesticides and for safe working conditions for farmworkers, pest control applicators, and other persons handling, storing or applying pesticides, or working in and about pesticide-treated areas." CDFA was directed to adopt regulations to carry out the mandate, including rules on pesticide handling, pesticide storage, protective clothing, worker entry into treated fields and field posting. The legislation made enforcement of the rules the joint responsibility of CDFA and CACs. The statute made the development of pesticide worker safety regulations the "joint and mutual responsibility" of CDFA and the Department of Health. With the formation of the California Environmental Protection Agency (Cal/EPA) in 1991, those roles were transferred to DPR and Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA), respectively.

In 1972, Congress overhauled FIFRA to strengthen enforcement and shift its emphasis from labeling and efficacy to protection of health and the environment. U.S. EPA was given exclusive authority over product labeling (preempting states from requiring their own label language). The law established national standards for certifying restricted pesticide applicators. It also prohibited states from registering pesticides not registered federally. After California imposed extra data requirements as a condition of registration, industry groups sued the state in 1980. They argued FIFRA preempted states from imposing their own registration requirements and fees. A federal district court found in favor of the state, ruling there was no federal preemption of state registration requirements. The litigants also tried unsuccessfully to persuade Congress to amend FIFRA to prevent states from requiring data that were different from or additional to data required by U.S. EPA.

In California, pesticide enforcement and workplace safety provisions expanded in the 1970s. Federal grant money that accompanied the passage of the 1972 FIFRA amendments allowed the department to upgrade its enforcement field offices with added staff. This made possible more training and improved supervision of local enforcement by CACs. Field inspection procedures were standardized, their scope widened to include all aspects of pesticide use (with an emphasis on worker safety), recordkeeping, storage and disposal. *(For more information on enforcement, see Chapter 7.)*

Regulations adopted in the 1970s required pesticide handlers to receive safety training, that they be provided protective clothing and equipment, and mandated longer intervals before workers could reenter treated fields. California also became the first state to require handlers to use closed systems when mixing and loading certain highly toxic pesticides into application equipment. The department also

[1] Appendix A lists this and other statutes noted in this chapter and shows the related code section it amended or added. Statutes and related code sections that have been deleted or superseded by later legislation have been omitted.

Roles of U.S. EPA and the States in Regulating Pesticides

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA, the omnibus federal pesticide statute) specifically authorizes state regulation of the sale and use of federally registered pesticides as long as state regulations are at least as restrictive as federal standards. Under FIFRA, for example, states may prohibit the distribution and sale of a federally registered pesticide or restrict pesticide use locally to protect ground water, wildlife or human health. (Acknowledging the realities of interstate commerce, FIFRA prohibits states from imposing their own requirements on pesticide labeling or packaging.)

Generally, the U.S. Environmental Protection Agency (U.S. EPA) has authority to enforce FIFRA requirements. However, FIFRA acknowledges that states have a pivotal role in regulating pesticides in their own jurisdictions, provided that their programs are at least as strict as those required under federal law. FIFRA section 24(a) reads, "A State may regulate the sale or use of any Federally-registered pesticide or device in the state, but only if and to the extent the regulation does not permit any sale or use prohibited by this Act."

States have primary enforcement responsibility for pesticide use/misuse violations under Sections 26 and 27 of FIFRA. FIFRA Section 26 gives states that U.S. EPA has determined have adequate enforcement procedures, laws and regulations primary authority for enforcing FIFRA provisions related to pesticide use, including inspection authority. U.S. EPA is authorized by Section 27 to rescind a state's primary enforcement responsibility if a state is not adequately carrying out its duties.

FIFRA Section 11 authorizes U.S. EPA to form cooperative agreements with states, giving them the responsibility for training and certifying applicators of restricted-use pesticides. States also may initially review and give preliminary approval to applications for emergency exemptions from registration and special local needs registrations, (although under some conditions FIFRA allows U.S. EPA later to deny state-approved applications).

The role of the states in regulating the use of pesticides is a result of lobbying by the states, which have argued successfully that control at the state level is more knowledgeable, precise and reliable. The federal role, by design, is not intended to substitute for the authority of any state to pursue a regulatory approach best suited to local conditions.

A U.S. Senate staff analysis in 1996 observed, "In general, Federal authority has not increased at the expense of State authority. Even when it has, existing statutes have allowed States to set more stringent standards than Federal standards, if so desired and needed. We should permit States to set separate safety standards. States can set these standards more quickly than the U.S. EPA in response to an emergency. They can also set a standard that provides more comprehensive protection than a federal standard. Some states, for example, have formulated standards that are more stringent than federal standards and are better designed to protect individual groups of citizens."

established a pesticide illness reporting and investigation system still unique in the nation. *(For more information on DPR's worker safety program, see Chapter 10.)*

In 1977, CDFA recognized the increasing importance of pesticide regulation by elevating the program to division status. From the 1920s through the 1950s, pesticide registration and regulation had been one function of the department's bureau (later division) of chemistry. When the department's chemistry laboratories were consolidated, regulation of both pesticides and fertilizers became the province of the Bureau of Agricultural Chemicals and Feed within the Division of Inspection Services. In 1977, pesticide functions were split off to CDFA's new Division of Pest Management, Environmental Protection and Worker Safety.

With the 1980s came far-reaching legislation that added authority and responsibilities to the regulatory program. CDFA's pesticide expertise encompassed multiple media (air, water, soil, and impacts on human health and wildlife), prompting a 1983 gubernatorial executive order giving the pesticide program primacy over pesticide regulation. This lead role has been reinforced by the Legislature, which in passing several legislative mandates, has maintained the department's primacy in pesticide safety and enforcement and in evaluating and controlling the environmental effects of pesticides.

These are good laws and everyone knows they work. Under them, the department has endeavored to work with vision and does those things that are generally accepted as honestly sound by the best informed persons.

— 1938 department annual report

Increasing concern about air pollution resulted in the 1983 passage of the Toxic Air Contaminant Act (Chapter 1047, AB 1807) to give state agencies clear authority to control airborne toxins. Under this program, DPR evaluates pesticides in air and, in cooperation with scientific reviewers, determines potential risks. Pesticides identified as TACs are subject to extra controls. *(See Chapter 4 for more information on DPR's toxic air contaminant program.)*

In 1984, the Legislature passed the Birth Defect Prevention Act (Chapter 669, SB 950). It required that DPR collect chronic health effects studies on all pesticides. This increased the responsibilities of the Registration Branch and led to creation of the Medical Toxicology Branch to evaluate toxicological data and prepare risk assessments. California's is the only pesticide regulatory program in the country with a large scientific and technical staff that evaluates toxicology, environmental and other data required for pesticide registration, and that conducts comprehensive risk assessments. *(See Chapter 5 for more information on risk characterization and the Birth Defect Prevention Act.)*

The Pesticide Contamination Prevention Act (Chapter 1298, Statutes of 1985, AB 2021) focused on mitigating the effects of pesticides in ground water. The law required the department to set up a database of wells sampled for pesticides, to collect data on the physical properties of pesticides that might lead to ground water contamination, and to control the use of and monitor for these pesticides. *(See Chapter 12 for more information on the ground water program.)*

The 1980s also marked the continued expansion of the department's pesticide enforcement program. Enforcement Branch staffing was increased and legislation passed to strengthen enforcement authority. AB 1614 (Chapter 943, Statutes of 1985) authorized CACs to levy direct civil penalties for violations of specified provisions relating to pesticides. Later legislation (Chapter 843, Statutes of 1989, AB 1873) gave DPR authority to levy civil penalties for the sale of unregistered or mislabeled pesticides, and for packing, shipping or selling of produce containing illegal pesticide residues. AB 1142 (Chapter 908, Statutes of 1988) improved the director's authority to seize and destroy a crop treated with a pesticide not registered for that crop.

In 1993, legislation (AB 774, Chapter 848) made it a crime for a grower to knowingly treat a commodity or crop with a pesticide that had been stolen or illegally obtained. In addition, the law provided that DPR licensees found to have knowingly sold, applied or provided stolen pesticides shall have their license suspended for at least 18 months.

In 2000, DPR was given authority to levy civil penalties for serious cases resulting from high-priority investigations or multijurisdictional violations (Chapter 806, SB 1970). Also in 2000, CACs were given the authority to refuse, suspend or revoke

restricted materials permits of individuals who ignore fines or lawful orders. In 2002, AB 947 increased the fines DPR and CACs could impose to $5,000 per violation. In 2005, SB 391 became law, allowing DPR and CACs to impose penalties for each person exposed as a result of a violation.

Ensuring Stable Funding

A long-standing policy of CDFA was that the state's General Fund should be used for programs that directly benefited the public or agriculture in general. Programs of direct benefit to an identifiable part of industry were to be supported by special charges or fees. However, these distinctions were seldom easy to decide and quantify as programs grew in responsibility and complexity. In any case, departmental policies did not have the force of law. The governor and the Legislature determined the source and division of funding.

Pesticide and pest control legislation in the early part of the twentieth century was sponsored by the regulated industry and focused on preventing fraudulent practices and unfair competition. Activities clearly related to registration and product quality were fully funded by industry fees, which were increased as necessary to keep the programs self-supporting. Public health protection became part of the regulatory program mission in 1927, when the Chemical Spray Residue Act became law and residue testing of fresh produce began. The General Fund provided all or most of the funding for this program until 2003, when the department became funded by special funds.

In 1971, a fee on pesticide sales was enacted (set then at $0.008 per dollar of pesticide sales) to help support the pesticide regulatory program. Beginning in the 1990s, the Legislature approved a series of increases in the assessment and at the same time decreased the General Fund support for the department. In the 1989-90 fiscal year, the General Fund comprised two-thirds of the regulatory program budget. By 2000-01, the percentage was reversed, with the DPR Fund funding 69 percent of program costs. Beginning in 2003, the department's budget has been based almost entirely on fees and the mill assessment.

In 1993, the Legislature passed AB 770 (Chapter 1176) to ensure that all people or businesses that were the first sellers of agricultural pesticides into California – whether a pesticide registrant, broker or dealer – pay the required assessment on their sales. Pesticide dealers already had to be licensed; the bill created a new license category for agricultural pesticide brokers, requiring them to have a DPR license to conduct business with or within California. The law also made it illegal for anyone to buy a pesticide labeled for agricultural use except from a person licensed as a pest control dealer or broker. The 2005 passage of AB 1011 (Chapter 612) expanded broker licensing to include first sellers of nonagricultural pesticides. *(See Chapter 15 for a more detailed discussion of regulatory funding.)*

Pesticide Regulation Becomes a Cal/EPA Department

In 1991, California's environmental authority was unified in a single Cabinet-level agency—the California Environmental Protection Agency (Cal/EPA). This brought the Air Resources Board (ARB), State Water Resources Control Board, and Integrated Waste Management Board (IWMB) under an umbrella agency with the newly created Department of Toxic Substances Control (DTSC) and Office of Environmental Health Hazard Assessment (OEHHA). As part of this reorganization, the pesticide regulation program was removed from CDFA and given departmental status as the Department of Pesticide Regulation within Cal/EPA. Pesticide-related statutory responsibilities and authorities were transferred to DPR. The pesticide residue laboratory remained with CDFA and local enforcement authority with CACs. In 2009, legislation transferred the Structural Pest Control Board from the Department of Consumer Affairs to DPR. The Board regulates the structural pest control industry, licensing businesses and individuals who conduct structural pest control.

The law does not prevent anyone from selling valuable agricultural chemicals or economic poisons if he will conform to the requirements of law and tell the truth about his product …

— 1933 department annual report

"It is the policy of the state that effective least toxic pest management practices should be the preferred method of managing pests at school sites…."

— *Healthy Schools Act of 2000*

Cal/EPA was created to improve environmental protection by coordinating multi-media issues in a single agency. DPR long had a cross-media program addressing water, air, soil and biological organisms. Other regulatory agencies have jurisdiction and authority over specific media, such as Cal/EPA's Air Resources Board (ARB) and State Water Resources Control Board. DPR has entered into formal agreements with these and other agencies to ensure a coordinated and effective approach to pesticide regulation regardless of the media affected. Besides these written agreements, DPR engages in frequent interagency consultations. Such consultations may be program-specific. For example, DPR worked with DTSC, ARB and IWMB to address proper disposal or burning of empty agricultural pesticide bags and containers. In other instances, the consultation may be more systematic, as with DPR's Pesticide Registration and Evaluation Committee, which brings together representatives of public agencies whose activities or resources may be affected by the use of pesticides. It meets about six times a year to advise DPR on regulatory development and reform initiatives.

For DPR, the 1990s marked full implementation of legislative mandates imposed in the 1980s, most notably requirements to collect and evaluate health effects and ground water data on pesticides. The department transformed itself to a fully functional environmental regulator and addressed mandates and needs that had been neglected or underserved. DPR put into place the nation's first system for full agricultural pesticide use reporting. The department established its IPM Innovator awards program to recognize individuals and organizations that emphasize pest prevention, favor least-hazardous pest control, and share their successful strategies with others. As part of its commitment to encouraging voluntary, community-based, pollution prevention programs, DPR is one of the few government agencies in the nation awarding grants to help develop and demonstrate innovative pest management practices that reduce the risks associated with pesticide use.

In the 2000s, DPR expanded its school IPM program with training of district staff, outreach to child care centers and an extensive Web site of information oriented to schools. DPR put in place science-based regulations to protect ground water, established a surface water protection program to find out how pesticides get into surface water, and developed measures to prevent surface and ground water contamination. The department has the nation's only program to reduce pesticidal sources of smog-producing volatile organic compounds. In addition, to learn more about air toxins, DPR set up the nation's first network to sample community air for pesticides.

Another key initiative was improving operational efficiency and service to consumers and regulated industries. A top-down assessment of the complex pesticide evaluation and registration process resulted in a series of changes that made it more efficient and effective without compromising California's strict health and environmental standards. DPR also has unparalleled pesticide databases. More than 20 are online and to improve their usefulness, the department created Web-based tools to search data on pesticide use and pesticide-related illnesses and to provide customized information to pesticide users on how to protect endangered species.

DPR continues to complete risk assessments and risk reduction measures on the highest-risk chemicals, with a continuing emphasis on protecting workers. Worker protection activities continue to be improved and include expanded outreach to fieldworkers about pesticide safety and what to do if they are exposed and become ill. Outreach to communities was the goal of DPR's community guide to recognizing and reporting pesticide problems and the department's establishment of a toll-free number that links callers to their CACs. Working with CACs, enforcement in the field was strengthened to ensure the most serious violations drew the heaviest penalties.

These and other DPR programs, policies and initiatives are the focus of the pages that follow.

Rulemaking

Statutes are laws passed by the California legislature or by the people of California by initiative or referendum. Regulations are rules put into place by state agencies in the executive branch of California government. An agency receives its power to adopt regulations from statutes. Agencies adopt regulations to carry out, interpret or make specific the statutes enforced or administered by it, or to govern its procedures. Properly adopted regulations have the force of law. However, in the event of an inconsistency or conflict, statutes take precedence over regulations. The process of writing and adopting regulations is called rulemaking.

The State Administrative Procedures Act (APA) prescribes procedures designed to ensure proposed regulations are necessary, not duplicative, clear and consistent, go through open public review, and are allowed by law. The APA requires state agencies to give public notice when proposing regulations, to provide the public with a meaningful opportunity to participate, and to consider public comments before making the rules final. Text and notices of proposed regulations and supporting documents must be posted on an agency's Web site. If the agency makes substantial changes in its proposed regulations, the public must again be given an opportunity to comment. Agencies must submit documentation to support the need and authority for the regulation, including a response to public comments to the Office of Administrative Law (OAL) for review to ensure compliance with the APA. After the regulations are adopted by the rulemaking agency, approved by OAL and filed with the Secretary of State, they must be published in the California Code of Regulations (CCR).

OAL's role is to ensure that state agency regulations are authorized by statute and within the agency's conferred authority, consistent with other law, written in an understandable manner, not duplicative of other law, and necessary to accomplish a statutory purpose. OAL also ensures that all APA procedures are followed.

The CCR consists of 28 titles. Title 3, Food and Agriculture, Division 6, Pesticides and Pest Control Operations, contains most pesticide-related regulations. Title 16, Professional and Vocational Regulations, Division 19, contains most Structural Pest Control Board regulations. The CCR is available at offices of county clerks, county law libraries and many public libraries. Regulations overseen by the Department of Pesticide Regulation (DPR) are available on its Web site.

The regulation process typically takes six months to a year to complete. The APA also allows agencies to file emergency regulations without the regular 45-day public notice and comment period provided the agency can show the regulation is necessary to immediately preserve the public peace, health and safety, or general welfare. Unlike permanent regulations, which are in effect until amended or repealed, emergency regulations expire in 180 days. During this time, the rulemaking agency must conduct a regular rulemaking process to permanently adopt the regulation.

External Scientific Peer Review

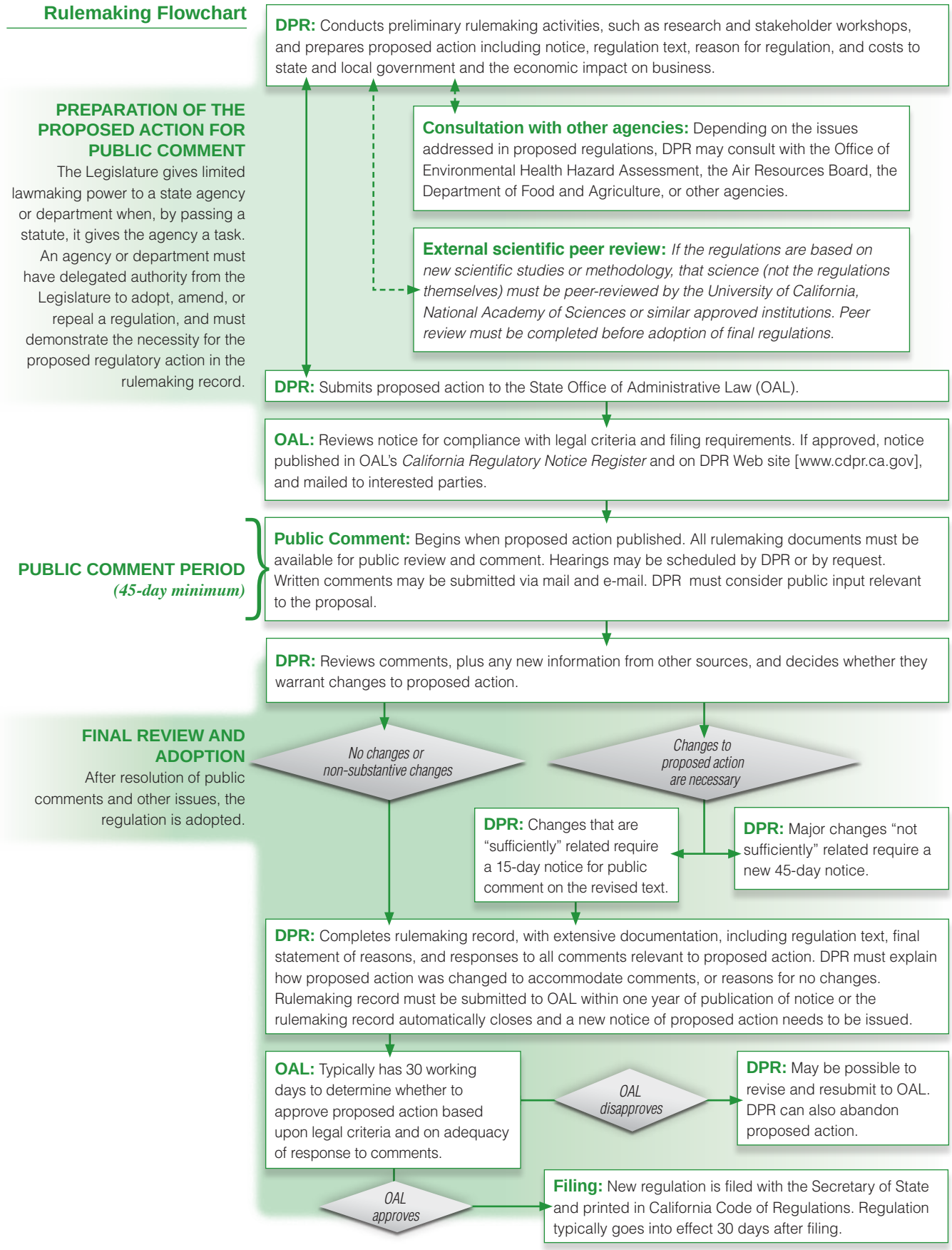
The purpose of peer review is to find technical problems or unresolved issues in a draft document so the final publication will reflect sound technical information and analyses.

As a result of a legislative mandate (Chapter 295[1], Statutes of 1997, SB 1320), no California Environmental Protection Agency (Cal/EPA) board, department or office "shall take any action to adopt the final version of a rule [that establishes a regulatory level, standard, or other requirement for the protection of public health or the environment … without submitting] … the scientific portions of the proposed rule, along with a statement of the scientific findings, conclusions, and assumptions on which the scientific portions of the proposed rule are based and the supporting scientific data, studies, and other appropriate materials, to the external scientific peer entity for its evaluation."

The legislatively mandated peer review of the scientific portions of a proposed rule is conducted by a committee comprised of members of the National Academy of Sciences, the University of California (UC), California State University, any similar scientific institution of higher learning, or individual scientists recommended by the UC President.

The Food and Agricultural Code (FAC) mandates that toxic air contaminant (TAC) health evaluation documents be reviewed by the Scientific Review Panel. *(See Chapter 4 for description of DPR's TAC program.)*

External peer review for regulations is in addition to the internal peer review that DPR typically conducts on its scientific documents. In addition, the law directs Cal/EPA's Office of Environmental Health Hazard Assessment to provide scientific peer review of DPR risk assessments (including risk characterization documents and exposure assessment documents). DPR also sends risk assessments to the U.S. Environmental Protection Agency for peer review.

[1] Appendix A lists this and other statutes noted in this chapter and shows the related code section it amended or added. Statutes and related code sections deleted or superseded by later legislation have been omitted.

Rulemaking Flowchart