

INITIAL STATEMENT OF REASONS

Defensible Space, 2005

[Published October 28, 2005]

**Title 14 of the California Code of Regulations (14 CCR),
Division 1.5, Chapter 7 Fire Protection, Subchapter 3., Article 3.**

Adopt:

Defensible Space Regulations. § 1299

The California State Board of Forestry and Fire Protection (Board) is promulgating a regulation necessary to implement a legislative amendment to Public Resource Code (PRC) 4291(b) authorized under Senate Bill (SB) 1369 of 2004. This legislation, among other things, requires persons in State Responsibility Area (SRA) to maintain around and adjacent to a building or structure additional fire protection or a firebreak by removing all brush, flammable vegetation, or combustible growth that is located from 30 to 100 feet from the building or structure or to the property line. The proposed regulation is a "performance standard regulation". It establishes a broad and flexible firebreak clearing objective consistent with the statute. The regulation also includes a guideline reference document, titled "General Guidelines to Implement Performance Based Defensible Space Regulation under PRC 4291". The guideline document describes criteria for conformance with proposed regulation and existing statute. This document is incorporated by reference pursuant to Title 1, California Code of Regulations (CCR), Regulation General Provisions, Section 20.

PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS

The requirement for this regulation is founded in the legislative amendments to PRC 4291(b). The amendments require additional clearing (from 30 feet to 100 feet from the structure, or the property line, whichever is less) to reduce the vulnerability of homes to wildfires and prevent the spread of fire from the homes to the wildlands. The amendments made to this statute under SB 1369 provide very general requirements for clearing vegetation for hazard reduction. The regulation provides more specific direction on implementing the regulation.

The regulation, as recognized by enactment of the authorizing legislation, is fundamentally necessary to address wildfire conditions that are a threat to homes, resources, and the overall public health and safety of California. The combination of overstocked forests, dense brush and increased human habitation in the SRA has resulted in substantial fire hazards to homes and residents. This wildfire hazard is particularly

relevant to the existing homes in the Wildland Urban Interface which is typically associated with the SRA lands. This wildfire hazard is a significant threat to human and natural resources throughout the 31 million acres of SRA, and potentially affects over 811,000 homes with the SRA. The imminent nature of the fire hazard problem has also been repeatedly recognized by many high profile efforts including the Governor's Blue Ribbon Fire Commission of 2004, U.S. General Accounting Office report on western National Forest fire conditions, the Western Governors' Association promulgation of the National Fire Plan, the USDA Forest Service (USFS) Sierra Nevada Forest Plan Amendment, 2004, and legislation proposed by the California State Assembly.

The threat to homes from wildfire is well documented. The combination of fuel, weather and valuable human and natural resource assets have created an increasing amount of wildfire and increasing losses. Major wildland fires in California, epitomized by the extraordinary fires of October, 2003, threaten a wide range of public and private assets. In 2003, wildfires destroyed more than 730,000 acres, 3,600 residential structures, and resulted in the tragic loss of 25 lives in California. The southern California wildfires were followed by mudslides that tragically killed 14 people. The subsequent mudslides possibly resulted from vegetation lost to wildfire and flash flooding.

Recent five year average shows over 500,000 acres per year were burned, and as seen recently in 2003, this annual total varies greatly with over 700 thousand acres burned in some years. While the area burned in wildfires varies greatly year to year, when viewed statewide, there has been an apparent increase in high fire years (total area burned greater than 500,000 acres) since 1985.

While the acreage and number of wildfires each is extensive and increasing on a statewide basis, a more significant trend is the climbing wildfire-related financial losses. From 1947 to 1990, the dollar damages to structures and other resources in State Responsibility Areas (SRA) exceeded \$100 million (2001 dollars) only once. Between 1990 and 2001, losses exceeded \$100 million five times.

SPECIFIC PURPOSE OF THE REGULATION

The purpose of this regulation is to provide guidance for implementing the defensible space criteria of PRC 4291 (a) and (b) and minimize the spread of fire within a 100 foot zone around a building or structure. Specific proposes and necessities of each subsection of the regulation are described below:

Subsection 1299 (a) identifies the persons and locations that must comply with the regulation. This includes any person that owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, and is within State Responsibility Area.

Subsection 1299(a)(1) states the requirements for clearing within 30 feet of the structure. These requirements have not been materially amended by the statutory amendments

under SB 1369. This section is included to remind affected persons of the existing clearing responsibility and ensure comprehensive application of all requirements of PRC 4291.

Subsection 1299 (a) (2) is the “performance standard” affected persons must comply with for the area within 30 to 100 feet from each building or structure. Establishing this standard is the primary purpose of the entire regulation, pursuant to changes in PRC 4291(b). The performance standard sets an objective that is required to be met. The standard generally requires disrupting the vertical and/or horizontal continuity of flammable and combustible vegetation with the goal of reducing fire intensity, inhibiting fire in the crowns of trees, reducing the rate of fire spread, and providing a safer environment for firefighters to suppress wildfire. This performance standard allows a wide variety of methods to be used to obtain compliance with PRC 4291(b).

Subsection 1299 (b) provides the fire inspection official the authority to direct removal or modification of any specific fire hazard determined to be necessary and consistent with subsection (a) or (a)(1). This provision ensures that fire officials retain final authority on determining acceptable implementation of the performance standard regulation.

Subsection 1299 (c) provides the fire inspection official the authority to approve alternative hazard reduction or fire prevention practices that have the same effect as those stated in the referenced guideline under 1299 (d) and which are consistent with PRC 4291. This provides the regulated public the opportunity to propose, with cooperation and approval to the fire prevention official, creative ways to obtain compliance with the law. This provision provides added flexibility to the regulated public and may ultimately result in less cost, less resource impacts, or other benefits, while reducing the vulnerability of the home to wildfire.

Subsection 1299 (d) references a “guidance” document that suggests ways to meet the 14 CCR subsection 1299 (a) (2) 30 feet to 100 feet clearing requirements. The guideline reference document is titled “General Guidelines to Implement Performance Based Defensible Space Regulation under PRC 4291”. It describes criteria that will result in conformance with proposed regulation and existing statute. This document is incorporated by reference pursuant to Title 1 CCR, Regulation General Provisions, Section 20. This guidance document is intended to instruct persons and fire officials on acceptable ways to obtain compliance with PRC 4291 and this proposed regulation.

The guideline document includes several sections. The sections include an introduction on the purpose of the guideline (Section A.); Definitions (Section B.); and fuel treatment guidelines that help describe effective hazard reduction treatments (Section C.).

Section A. includes an overview of the purpose of the guidelines and educational content for applying defensible space practices. Key to this section are discussion on the wide variety of fuel reduction standards necessary due to the fuel and climatic variations in the state; educational components which describe environmental protection steps necessary

to avoid impacts as a result of the clearing; and other advice on compliance with any local permits or local restrictions.

Section B. provides definitions used in the guideline document, as terminology can be technical and the goal of the guideline is to clearly communicate the terms to the general public.

Section C. of the guideline document details two different fuel treatment methods, which when applied, will result in compliance with PRC 4291 and the proposed regulation 14 CCR 1299. Both fuel treatment methods (4a. Reduced Fuel Zone: Separation Between Fuels; and 4b. Reduced Fuel Zone: Defensible Space with Continuous Tree Canopy) provide a variety of treatments that involve removal of vegetation to create space between fuels and reduce the chance of fire spread from fuel to fuel.

Option 4a. uses vegetation clearing standards that have been widely used by fire agencies for many years and such standards are well documented in literature as effective for reducing wildfire spread around homes. Option 4b. addresses the need for achieving hazard reduction while maintaining aesthetic values around homes. The option includes a method to reduce problematic fuels (ground and ladder fuels) while maintaining a continuous canopy of trees. Retaining trees on a person's property was recognized by the Board as an important aspect of preserving scenic qualities around a home.

NECESSITY

The regulation is necessary for making specific recent amendments to statute PRC 4291(b) and to address the public problem with hazardous fuel and wildfire conditions near homes previously discussed.

ALTERNATIVES TO THE REGULATION CONSIDERED BY THE BOARD AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

The Board has considered a wide variety of alternatives to the regulation proposed. The alternatives primarily relate to various language for the guideline reference document for describing acceptable vegetation treatment methods which will result in compliance with PRC 4291(b) and 1299 (a)(2) performance standard. The following alternatives were considered:

Alternative #1: No Implementing Regulation

This alternative would have resulted in no regulation and reliance on interpreting the underlying statute for compliance. This alternative was rejected as the underlying statute provided very little flexibility in achieving the overall goals of the statute (reducing fire hazards near homes). The Board determined that the legislative amendment specified under SB 1369 in 4291(b) could be achieved by a variety of vegetation treatment methods. Also, the underlying statute provides little direction for how to implement the requirements of PRC 4291(b).

Alternative #2: Detailed Vegetation Treatment Standards/No Performance Standard

This alternative included a series of vegetation removal prescriptions (selective plant cutting and removal) that would have been the regulatory standard for compliance. The prescriptions involve various clearing widths and vegetation spacing. This alternative was rejected as it did not provide enough flexibility for property owners to meet the statutory requirements in alternative ways that would be as effective as the prescriptive regulation but less costly. This alternative also did not address the wide range of vegetation clearing specification needed given the wide range of fuel configurations and types, climates, and terrain conditions found throughout the State. Additionally, the detailed vegetation prescription contained information that was technical in nature and would likely not be understood by the general public resulting in poor compliance.

Alternative #3: Simple and Flexible Performance Standard Regulation/No Guidance Document.

This alternative contained broad regulatory language that would allow affected persons to meet hazard reduction requirements using solely performance based standards. This alternative would have provided maximum flexibility for persons to obtain compliance. This alternative was rejected as it did not contain enough information to guide landowners towards compliance and did not provide enough information to help fire officials evaluate compliance.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The California Environmental Quality Act (CEQA) requires review, evaluation and environmental documentation of potential significant environmental impacts from a qualified project. The Board's rulemaking process was determined to be categorically exempt from environmental documentation in accordance with 14 CCR 1153(b) (1), Declaration of Categorical Exemptions. Landowner implementation of the regulation is not a CEQA project because there is no government permit or funding associated with the activity.

General evaluation of potential significant impacts indicates that significant impacts are unlikely as these projects affect limited area around existing homes. Such areas generally do not contain substantial areas of native habitats with valuable quantities of habitat components, cultural sites, or beneficial uses of water. The nature of maintenance work conducted under these regulations consists of minor alterations to vegetation and removal for the purpose of maintaining native growth around residential structures.

Analysis of potential significant environmental impacts has identified several resources that may be potentially affected as the follows:

Water Quality: Projects conducted under this regulation can result in vegetation clearing near streams and watercourse areas. One concern with vegetation removal around watercourses is reduction in stream water temperature due to reduction in riparian vegetation and overstory tree shade. Recommended guidelines for clearing will typically result in only minor amounts of large vegetation being removed, as the specifications suggest retention of well-spaced shrubs and trees, and focus on removing smaller vegetation. Another concern is soil erosion into watercourses. To mitigate this potential impact, the guidelines permit ground litter to be retained to provide protective soil cover and avoid erosion.

In cases where hazard reduction is conducted in locations where larger trees are being removed and utilized for commercial purposes, the California Forest Practice Rules (FPRs) include requirements to minimize environmental effects. These practices have been determined to be effective in avoiding significant adverse environmental impacts. Such requirements as general prohibition of operations in stream courses, no new road construction, and prohibition of operation on steep slopes are likely to minimize or eliminate impacts of the project on water quality. Generally, projects conducted in compliance with PRC 4291 have been determined by the Regional Water Quality Control Boards as acceptable for a “Categorical Waiver” from a waste discharge permit. This indicates the low level of expected impacts to beneficial uses of water likely to result for these operations.

Fish, wildlife, and plant habitat: The projects are expected to create minor disturbance to the ground cover and understory components of the several forested, shrub and grassland habitats. The projects are intended to affect the understory components of vegetation cover, with lesser changes to overstory conditions. As such, in consultation with the Department of Fish and Game, primary concern is the understory habitat requirements. Overstory forested canopies are expected to remain intact, with little to no change in the California Wildlife Habitat Relationship size and density classification.

Understory forests conditions and ground cover conditions are expected to be modified by the project. Recommendations are incorporated in the guideline document to incorporate actions that minimize the affects to understory vegetative and special wildlife habitat elements (down logs). Such measures include retaining limited down large woody debris to maintain and enhance wildlife values, and retain screening to provide cover and shelter for wildlife. Finally, for larger scale forest operations that remove trees for commercial purposes, the FPRs contain operational requirements that have been determined to be effective in avoiding significant adverse environmental impacts to biological resources.

Public concern has been raised during the formulation of the regulation regarding conflicts between fuel hazard reduction requirements and habitat protection or State/Federal Endangered Species Act requirements. Existing endangered species laws are relevant to the action proposed and require compliance. However, many southern California local entities that have experienced catastrophic fire and

significant losses to homes have negotiated Memoranda of Understanding (MOUs) or other agreements that recognized the necessity of establishing defensible space around homes as a key component to reducing wildfire and protecting species and habitat. As a result, individual MOUs and other agreements provide wildlife “take” permits to facilitate completion of the fuel hazard reduction work where critical habitat is located in the clearing areas. This cooperation demonstrates the importance of the hazard reduction towards avoiding significant impacts to biological resources and the relatively low level of risk associated to direct impacts to biological resources from the clearing projects.

Aesthetic setting: The nature of the projects includes removal of understory vegetation that often acts as a visual screen between houses or other human occupied space (roads, commercial building etc.). Loss of the screening can result in undesired visual effects on those residents in wildlands areas that value the remote setting. Key to the mitigation process will be developing fuel hazard reduction prescriptions which reduce visual impacts while meeting the hazard reduction objective. With the guideline providing options for incorporating screening elements via leaving well spaced vegetation and continuous overstory canopies, opportunities to mitigate impacts to aesthetic settings are provided.

The Board has incorporated the above mitigation measures to eliminate or substantially lessen to a level less than significant the potential adverse effects on the environment. Together, the standard provisions of the Forest Practice Rules and the unique protective requirements of this regulation are expected to provide an insignificant level of environmental impacts.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON ANY BUSINESS

Summary: Initial economic impacts to the regulated public will occur from implementation of this regulation in the short term due to vegetation clearing around structures. These costs will be incurred by homeowners and business with structures in SRA. These initial costs will be offset or result in an unspecified economic benefit to the regulated public and to State, local and other fire protection providers, resulting in a net zero-dollar economic and fiscal impact.

Economic Costs and benefits: Initial costs are related to require selective clearing of excess fire hazardous vegetation around homes (Defensible Space) for a distance of 30 feet to 100 feet from the structure. Existing requirements under PRC 4291 already require clearing from 0 feet to 30 feet from the structure.

The initial costs of the proposed regulation are estimated at \$0 per home to an estimated \$2000 per home. This estimate is based each home having to clear approximately up to 1.5 acres per home, but more likely .5 acres per home because of lot size limitations. Most clearing for an individual home will likely involve an 8 hour day of landscaping

labor estimated to be \$200 per home. In some cases, the clearing will generate minor net revenues for homeowners if commercial trees are removed, instead of net costs.

There are over 800,000 homes in the State Responsibility Area (SRA) that would potentially be affected by this regulation. However, not all homes will require additional vegetation clearing expenses, as many homeowners already voluntarily or are required by local ordinances to conduct this level of vegetation clearing.

No precise estimate is known of the number of homes needing vegetation clearing. Anecdotal estimates suggest that 50% of the homes in SRA would require vegetation clearing to comply with this regulation. As an example of the potential initial costs to the public, treatment of 400,000 homes at \$200 per home would result in an estimated \$80 million dollar expense. This cost would likely occur over a 10 year period and be reincurred after 10 years.

Wildfire in California annually results in hundreds of million of dollars in losses to property each year. It is likely the initial vegetation clearing expenses will be more than offset by reduction in financial losses to property and life over a 10 to 20 year period. This will be achieved by enhanced defensible space clearance resulting in reduced property losses from wildfire, and therefore fewer insurance claims which in turn will result in lower insurance premiums to consumers in the long run. The recent Topanga Fire in Ventura County in September of 2005, is a good example of near zero property losses due to good defensible space clearance.

Fiscal Costs and benefits: The regulation will not result in a fiscal impact to the State. While the regulation will impose on the California Department Forestry and Fire Protection (CDF) more intensive inspection requirements, fire engine staffing increases for southern California in this year's budget will help offset inspection costs. Additionally, CDF hopes to offset inspection costs by developing an education outreach program to assist in homeowner compliance, further reducing the need for intensive inspections.

Finally, a longer term fiscal benefit may be derived to the State from compliance with the regulation. This benefit results from a lesser need for fire protection services dedicated to home protection during a wildfire because of the improved defensible space conditions. With improved defensible space compliance, fewer fire suppression assets are needed to contain and control wildfires. This could result in more rapid wildfire containment, and lower expenditures of emergency funds allocated to each wildfire incident.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

The Board has considered several alternatives to improve the economic efficiency of the regulation to make it more cost effective for small business to use. Alternatives considered included varying minimum levels of vegetation removal. These reduced

levels of vegetation clearing would result in the less cost to small businesses. These alternatives were rejected as the vegetation clearing standards were determined to provide inadequate fire safety standards and would not be in compliance with PRC 4291.

TECHNICAL, THEORETICAL, AND/OR EMPIRICAL STUDY, REPORTS, OR DOCUMENTS

The Board of Forestry and Fire Protection consulted the following listed information and/or publications as referenced in this *Initial Statement of Reasons*. Unless otherwise noted in this *Initial Statement of Reasons*, the Board did not rely on any other technical, theoretical, or empirical studies, reports or documents in proposing the adoption of this regulation.

Adams, Gerald/Smith, Ed. Incline Village/ Crystal Bay Defensible Space Handbook.

Alexander, Martin, PhD, RPF. Understanding Fire Behavior, The Key to Effective Fuel Management.

Anderson, Hal. Aids to Determining Fuel Models For Estimating Fire Behavior.

Bonnicksen, Thomas, M. Fire Breaks Offer False Security, Symbolize Failure.

Carey, Henry; Schumann, Martha. Modifying WildFire Behavior- The Effectiveness of Fuel Treatments.

Cohen, Jack D. Reducing Wildland Fire Threat to Homes: Where and How Much

Gilmer, Maureen. 1994. California Wildfire Landscaping: Creating Bands Of Protection With Plants, Managing Native Vegetation, Getting Help: Public and Private Resources.

Minnich, Ralph. February, 1996. Fuel Reduction Guidelines.

Sapsis, D. July 25, 2005. Fire Behavior Modeling Considerations.

Scott, Joe, H. Canopy Fuel Treatment Standards for the Wild land-Urban Interface.

Stephens, Scott, L. Testimony for the Resources Subcommittee on Forest and Forest Health Field Hearing on the Sierra Nevada Forest Plan: Protecting Communities, Water, Wildlife, and the Forest of Sierra Nevada.

California Department of Forestry and Fire Protection. 2004 Wildfire Activity Statistics.

Agree et al.. The Use of Shared Fuel Breaks in Landscape Fire Management. Forest Ecology and Management.

Board of Supervisors, County of Madera. Senate Bill (SB) 1369; Changes to Public Resources Code (PRC) 4291 and Government Code (GC) 51182.

California Codes Public Resources Code, Section 4291-4299.

California Department of Forestry and Fire Protection. Homeowners Checklist: How to Make Your Home Fire Service.

Nevada County Fire Plan. 2004. Defensible Space-Defensible Community Guidelines Summary.

Fire Safe Council. July, 2005. Living With Fire: A Guide for the Homeowner.

FRAP, California Department of Forestry and Fire Protection. 2003. Wildfire Risk to Assets.

FRAP, California Department of Forestry and Fire Protection. 2003. Trends in Wildland Fire.

Chief James Wright Memorandum. November, 2004. Senate Bill 1369; Changes to Public Resource Code 4291 and Government Code 51182.

Miscellaneous. Newspaper Article

Pacific Northwest Research Station. June 2004. Science Update, Reducing Fire Hazard: Balancing Cost and Outcomes.

USDA Forest Service Rocky Mountain Experiment Station. Assessing Crown Fire Potential by Linking Models of Surface and Crown Fire Behavior. RMRS-RP-29.

USDA Forest Service Rocky Mountain Experiment Station. April, 2004. Science Basis for Changing Forest Structure to Modify Wildfire Behavior and Severity. GT: RMRS-GTR-120

USDA Forest Service Pacific Northwest Research Station. September 1999. The Effects of Thinning and Similar Stand Treatments on Fire Behavior in Western Forests.

United States General Accounting Office. Western National Forest: A Cohesive Strategy is Needed to Address Catastrophic Wildlife Threats. GAO/RCED-99-65.

California Department of Forestry and Fire Protection. Controlling Nature's Wrath. (see compact disc). 2005.

County of San Diego. San Diego County Multiple Species Conservation Program.

September 9, 2005.

CDF FRAP. Housing Densities by Wildfire Responsibility Areas. April 2005.

Oregon Department of Forestry. Oregon Forestland-Urban Interface Fire Protection Act, Property Evaluation & Self-Certification Guide- For Deschutes County. August 2004.

City of San Diego. Fire Safety and Brush Management for Private Property. May, 2004.

Pursuant to Government Code 11346.2(b)(6): In order to avoid unnecessary duplication or conflicts with federal regulations contained in the Code of Federal Regulations addressing the same issues as those addressed under the proposed regulation revisions listed in this *Statement of Reasons*; the Board has directed staff to review the Code of Federal Regulations. The Board staff determined that no unnecessary duplication or conflict exists.

PROPOSED TEXT

The proposed revisions or additions to the existing rule language is represented in the following manner:

UNDERLINE indicates an addition to the California Code of Regulations, and

~~STRIKETHROUGH~~ indicates a deletion from the California Code of Regulations.

All other text is existing rule language.

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