

INITIAL STATEMENT OF REASONS AND PUBLIC REPORT
DEPARTMENT OF PESTICIDE REGULATION

Title 3. California Code of Regulations
Amend Sections 6452 and 6452.2
Amend Section 6452.4 and Renumber to 6881,
Renumber section 6890 to 6864
Adopt Sections 6558, 6577, 6880, 6883, 6884, and 6886
Pertaining to Volatile Organic Compounds in the
San Joaquin Valley Ozone Nonattainment Area

This is the Initial Statement of Reasons (ISR) required by Government Code section 11346.2 and the public report specified in section 6110 of Title 3, California Code of Regulations (3 CCR). Section 6110 meets the requirements of Title 14 CCR section 15252 and Public Resources Code section 21080.5 pertaining to certified state regulatory programs under the California Environmental Quality Act.

SUMMARY OF PROPOSED ACTION/PESTICIDE REGULATORY PROGRAM ACTIVITIES
AFFECTED

The Department of Pesticide Regulation (DPR) proposes to amend sections 6452, 6452.2, and 6864; amend section 6452.4 and renumber to 6881; renumber section 6890 to 6864; and adopt sections 6558, 6577, 6880, 6883, 6884, and 6886 of 3 CCR. The pesticide regulatory program activities that will be affected by the proposal are those pertaining to environmental monitoring and pesticide enforcement. In summary, the proposed action would require prohibitions on the use of certain nonfumigants on certain crops in the San Joaquin Valley ozone nonattainment area (NAA) during May 1 through October 31 if the volatile organic compound (VOC) emission limit is triggered. These prohibitions would apply to agricultural use products containing abamectin, chlorpyrifos, gibberellins, or oxyfluorfen. Also, when purchasing or using certain products containing these four active ingredients, the proposed action would require a written recommendation from a licensed pest control adviser and require pest control dealers to provide VOC information to the purchaser.

SPECIFIC PURPOSE AND FACTUAL BASIS

State and federal law mandates that DPR protect human health and the environment by regulating pesticide sales and use and by fostering reduced-risk pest management.

VOCs contribute to the formation of ground-level ozone, which is harmful to human health and vegetation when present at high enough concentrations. The federal Clean Air Act requires each state to submit a State Implementation Plan (SIP) for achieving and maintaining federal ambient air quality standards for ozone. An ozone NAA is a geographical region in California that does not meet federal ambient air quality standards. The U.S. Environmental Protection Agency (U.S. EPA) designates NAAs in Title 40, Code of Federal Regulations (CFR) section 81.305.

California's SIP includes an element that requires DPR to track and reduce pesticidal sources of VOCs in five NAAs--Sacramento Metro, San Joaquin Valley, South Coast, Southeast Desert, and Ventura--to meet the ozone standard. The tracking of emissions and control measures are focused on the period between May 1 and October 31, because that is the peak "ozone forming" season in California.

Since 1990, DPR maintains an annual emissions inventory to track pesticide VOC emissions, based on the amount of pesticide products applied (from pesticide use reports) and the VOC content (emission potential) of pesticide products. Most pesticide VOC emissions are from fumigants and products formulated as emulsifiable concentrates. Fumigants are gaseous pesticides, applied in relatively high amounts. Emulsifiable concentrates (nonfumigants) contain solvents that keep pesticides in liquid form, so that mixing and applying the product are easier.

Sacramento Metro and South Coast ozone NAAs have consistently achieved a reduction of pesticide VOC emissions from the 1990 base year. Prior to 2008, San Joaquin Valley, Southeast Desert, and Ventura NAAs did not always meet the reduction goals. In January 2008, DPR adopted regulations (Office of Administrative Law File No. 2007-1219-01S) to achieve a reduction of pesticide VOC emissions from 1990 levels in the five NAAs. Those regulations, in part, focused exclusively on fumigant VOC emissions to achieve reductions through controls requiring "low-emission" application methods and the benchmarks that trigger a cap and allowance system to force reductions if needed.

With the current fumigant controls in place, the emissions inventory indicates that DPR will consistently achieve the SIP reduction goals for the Sacramento Metro, South Coast, Southeast Desert, and Ventura ozone NAAs. However, the emissions inventory indicates that DPR may not consistently achieve the SIP emission level goal of 18.1 tons per day average for the San Joaquin Valley ozone NAA since most pesticide VOC emissions are due to the use of nonfumigants. Fumigants account for approximately one-quarter of the pesticide emissions in the San Joaquin Valley NAA, and nonfumigants account for three-quarters. Since fumigants have a relatively smaller contribution, additional fumigant reductions would have minimal impact on total pesticide VOC emissions. Under the 2009 proposed SIP revision, DPR is obligated to reduce VOC emissions from nonfumigant pesticides. These reductions will be more effective in reducing total pesticide VOC emissions, since nonfumigants make up the majority of pesticide VOC emissions in the San Joaquin Valley ozone NAA.

It is possible that current regulations would require a major decrease or a total prohibition of fumigants, and still not achieve the pesticide SIP goal for the San Joaquin Valley due to increased nonfumigant emissions. Under the current regulations, a fumigant limit is triggered even if emissions exceed a specified level due to an increase in nonfumigants. Therefore, a fumigant limit program is a less efficient reduction measure for the San Joaquin Valley ozone NAA compared to the other NAAs. DPR proposes to replace fumigant limits in the San Joaquin Valley ozone NAA with nonfumigant use restrictions and prohibitions when emissions reach levels five percent or less below the benchmarks or exceeds the benchmark of 6,700,000 pounds (18.1 tons per day average).

As mentioned above, most pesticide VOC emissions in the San Joaquin Valley NAA are from nonfumigant products formulated as emulsifiable concentrates. The liquid products have higher

emission potentials, while solid products (e.g., dusts, powders, and granules) have lower emission potentials. In 2005, DPR initiated a reevaluation (regulatory process to request actions by pesticide manufacturers and formulators [registrants]) for several hundred nonfumigant products. The reevaluation required registrants to submit plans for reformulating the inert ingredients in the products to reduce VOC emissions. Some registrants responded to the reevaluation or earlier informal DPR requests by successfully reformulating several products.

Pesticide products containing abamectin, chlorpyrifos, gibberellins, or oxyfluorfen have consistently been among the highest nonfumigant VOC contributors in the San Joaquin Valley ozone NAA. Although products with lower VOC emissions are available for these active ingredients, current voluntary efforts to use lower VOC products may not consistently achieve the SIP reduction goals. Therefore, restrictions on nonfumigant VOC emissions in the San Joaquin Valley NAA are needed to: ensure that the SIP reduction goal is achieved in a worst-case year; comply with the SIP commitment to implement restrictions on nonfumigant pesticides by 2014; and reduce the regulatory burden on fumigants and avoid triggering a fumigant limit.

DPR will need to balance four factors to achieve the needed VOC reductions from the nonfumigant restrictions--active ingredients, setting product emission potential limits, crops, and exemptions. DPR proposes to designate products with agricultural uses containing abamectin, chlorpyrifos, gibberellins, or oxyfluorfen as their primary active ingredient as a "low-VOC" or "high-VOC" contributor based on the product's emission potential. DPR proposes to require nonfumigant use prohibitions on certain crops in the San Joaquin Valley ozone NAA when using these active ingredients during May 1 through October 31 if the VOC emission limit is triggered. With a few exceptions, products that are designated as "high-VOCs" will not be allowed to be applied to alfalfa, almonds, citrus, cotton, grapes, pistachios, and walnuts during this time period.

Additionally, when agricultural use of a high-VOC product is allowed, DPR proposes to require a written recommendation from a licensed pest control adviser (PCA) as a condition use on the seven crops during May 1 through October 31. A PCA recommendation is currently optional for all pesticides. The operator of the property and the PCA will be required to retain a copy of the recommendation for two years after the application. Also, whenever selling certain high-VOC products, a licensed pest control dealer will be required to provide written VOC information to the purchaser who has an operator identification number issued by a county agricultural commissioner (CAC) in the San Joaquin Valley ozone NAA.

In developing the proposed regulations, DPR discussed the proposal with representatives from groups that will be directly affected by the restrictions including registrants, agricultural commodity organizations, PCAs, pest control dealers, applicators, and growers. DPR invited several environmental and worker organizations to discuss the regulatory options, but all declined the invitation. We received comments at several public meetings with DPR's Pesticide Registration and Evaluation Committee, Agricultural Pest Control Advisory Committee, and Pest Management Advisory Committee.

The adoption of these proposed regulations would assure that smog-producing emissions from pesticide use in the San Joaquin Valley ozone NAA will not exceed the pesticide SIP goal, reducing the ozone level that may be harmful to human health and vegetation when present at high

concentrations. The regulations should reduce VOC emissions by approximately two tons/day during a worst-case year, less than a one percent reduction in total VOC emissions from all sources in the San Joaquin Valley ozone NAA because pesticide products only contribute approximately six percent of the total VOC emissions. Restrictions on nonfumigant products will provide minimal overall reduction in VOC emissions and resulting ozone air concentrations. However, even the largest sources contribute less than 15 percent to the total VOC emissions, and pesticide products are consistently among the top ten VOC sources in the San Joaquin Valley. Reductions from many sources are needed to achieve the ozone air quality standard.

DPR proposes the following regulatory amendments:

- Amend Section 6452(a) - Reduced Volatile Organic Compound Emissions Field Fumigation Methods.

Subsection (a) is being amended to reflect the correct section reference based on the proposed changes.

- Amend Section 6452.2 - Volatile Organic Compound Emission Limits.

As mentioned above, with the current fumigant controls in place, the emissions inventory indicates that DPR will consistently achieve the SIP reduction goals for the Sacramento Metro, South Coast, Southeast Desert, and Ventura NAAs, but may not consistently achieve the SIP emission level goal of 18.1 tons per day average for the San Joaquin Valley ozone NAA since most pesticide VOC emissions are due to the use of nonfumigants. It is possible that current regulations would require a major decrease or a total prohibition of fumigants, and still not achieve the pesticide SIP goal for the San Joaquin Valley due to increased nonfumigant emissions. Under the current regulations, a fumigant limit would be triggered even if emissions exceed a specified level due to an increase in nonfumigants. Therefore, a fumigant limit program is a less efficient reduction measure for the San Joaquin Valley ozone NAA. DPR proposes to replace fumigant limits in the San Joaquin Valley NAA with nonfumigant use restrictions and prohibitions when emissions reach levels five percent or less below the benchmarks or exceeds the benchmark of 6,700,000 pounds (18.1 tons per day average). Subsection (a) would require a fumigant limit only for the Sacramento Metro, South Coast, Southeast Desert or Ventura ozone NAAs if emissions exceed a specified level.

Proposed subsection (f) has been added to specify provisions of section 6884 would apply only in the San Joaquin Valley ozone NAA. The use prohibitions and restrictions for nonfumigants would be more appropriately cited under Chapter 4. Environmental Protection, Subchapter 2. Air, Article 2. Volatile Organic Compounds, instead of Chapter 2. Pesticides, Subchapter 4. Restricted Materials, Article 4. Field Fumigation Use Requirements, instead of under Subchapter 4. Restricted Materials. Unlike fumigants, these nonfumigant products are not state restricted materials. Restricted materials may only be used by certified applicators that have demonstrated skills to properly use pesticides, and under a permit issued by the CAC. Food and Agricultural Code (FAC) section 14004.5 authorizes the Director, by regulation, to designate and establish a list of restricted materials based upon criteria. Certified applicators are unnecessary for these nonfumigant VOC products because special equipment, procedures, or precautions are not needed, nor would the

evaluation of local conditions by CACs, required before issuing a permit, be needed for VOC purposes.

These specific restrictions and prohibitions for nonfumigants are further discussed below in the ISR.

The proposed amendments to subsection (a) remove from the benchmarks for "Ventura in 2011" since they no longer apply, as well as the phrase "in 2012 and later" since this benchmark is already in effect; move the benchmarks for the San Joaquin Valley NAA to proposed subsection (f); make a clarifying change to subsection (a)(1); revise the title of the section to remove "Fumigant" as this section is proposed to also address nonfumigants; and correct the reference in subsection (e).

- Adopt Section 6558 - Recommendation for Use of Nonfumigants in the San Joaquin Valley Ozone Nonattainment Area.

As proposed in section 6883, an operator of property is required to obtain a licensed PCA written recommendation if a high-VOC nonfumigant product specified in the Annual VOC Emissions Inventory Report is to be applied to one of the following during May 1 through October 31: alfalfa, almonds, citrus, cotton, grapes, pistachios, and walnuts. DPR proposes to prohibit the PCA from recommending a use in violation with the prohibitions set forth in proposed section 6884. Requiring a licensed PCA recommendation is further discussed in section 6883 of this ISR on page 8.

Also, a PCA will be required to retain the recommendation for at least two years. PCAs are currently required to retain recommendations for one year. The extra retention time is needed to allow for enforcement audits of the recommendations by DPR and/or CAC staff. Some audits would be initiated based on information in pesticide use reports and the Annual VOC Emissions Inventory Report. It takes DPR approximately one year to complete processing of pesticide use reports, and calculation of the emission inventory for the previous year. Retaining PCA recommendations for high-VOC products for two years will provide a one year window to conduct audits.

- Adopt Section 6577 - Sales of Nonfumigants for Use in the San Joaquin Valley Ozone Nonattainment Area.

Prohibitions and restrictions on high-VOC products may be in effect for some years, but not others. The Annual VOC Emissions Inventory Report would be used to determine if the trigger level is exceeded. However, because high-VOC products may be purchased before DPR determines whether the trigger level has been reached, the purchaser needs to be aware that the high-VOC product(s) purchased may have use prohibitions, as well as restrictions even if the trigger level is not reached. Proposed subsection (a) would require all licensed pest control dealers selling a high-VOC product with agricultural uses specified in the Annual VOC Emissions Inventory Report to provide VOC information when sale is made to or for the operator of the property with an operator identification number issued by a CAC in the San Joaquin Valley ozone NAA. This requirement would apply to all dealers because the amount of pesticides purchased outside the San Joaquin Valley for use inside the San Joaquin Valley NAA is unknown.

The information must be in writing and provided at time of purchase or delivery. The information should provide the purchaser with the four active ingredients and seven crops subject to use restrictions during May 1 through October 31, and use prohibition that may apply are found in section 6884. Also, inform the purchaser that a written recommendation of a licensed PCA is required prior to use on the seven crops.

Proposed subsection (b) would require the pest control dealer to indicate on the invoice that he/she met the requirements in (a). This will assist in determining whether the requirement was complied with during an enforcement audit.

- Renumber Section 6890 - Criteria for Identifying Pesticides as Toxic Air Contaminants.

Renumber section 6890 to 6864 in order to allow for additional section numbers to be added to Article 2.

- Adopt Section 6880 - Criteria to Designate Low-Volatile Organic Compound (VOC) or High-VOC Nonfumigant Pesticide Products.

Emulsifiable concentrates containing abamectin, chlorpyrifos, gibberellins, or oxyfluorfen are consistently among the highest nonfumigant VOC contributors in the San Joaquin Valley NAA. Other nonfumigants are relatively high VOC contributors in some years, but not other years. Low-VOC products containing abamectin, chlorpyrifos, gibberellins, or oxyfluorfen are available and feasible for the majority of uses, but voluntary efforts to switch to the low-VOC products have had limited results. The needed VOC reductions for the San Joaquin Valley can be achieved with restrictions on chlorpyrifos, the largest nonfumigant VOC contributor. However, the agricultural impact may be lessened (or at least more certain) with less stringent restrictions on all four active ingredients.

DPR proposes to designate certain nonfumigant products with agricultural uses containing abamectin, chlorpyrifos, gibberellins, or oxyfluorfen as their primary active ingredient as a low-VOC product based on the product's emission potential in the Annual VOC Emissions Inventory Report. Some products containing abamectin, chlorpyrifos, gibberellins, or oxyfluorfen also contain other active ingredients. Emission potential thresholds should only be set for products based on the "primary active ingredient." If a product contains more than one active ingredient, the primary active ingredient is the one present at the highest percentage in a product. This requirement would not apply to a product where one of these active ingredients is not the primary because restrictions would be placed on other "primary" active ingredients that are not major contributors to VOC emissions in the San Joaquin Valley NAA. Additionally, the emission potential thresholds may be inappropriate for products containing abamectin, chlorpyrifos, gibberellins, or oxyfluorfen as secondary active ingredients due to differences in product chemistry.

Use of low-VOC abamectin, chlorpyrifos, gibberellins, and oxyfluorfen products likely ensures that the San Joaquin Valley SIP goal is consistently achieved. Pesticide VOC emissions for the San Joaquin Valley in 2006 were 21.3 tons per day, exceeding the SIP goal by 3.2 tons/day. If the 2008 fumigant regulations had been in effect for 2006, DPR estimates that the fumigant emissions would

have been reduced by 2.5 tons per day (31 percent reduction from low-emission fumigant application methods, 6 percent reduction from shifts outside May 1 through October 31), resulting in total pesticide VOC emissions of 19.1 tons/day for 2006. If all abamectin, chlorpyrifos, gibberellins, and oxyfluorfen applications in 2006 used low-VOC products, DPR estimates that total pesticide VOC emissions would have been 15.6 tons per day. The fumigant restrictions and nonfumigant restrictions combined would ensure that the SIP goal of 18.1 tons/day would be met each year, and the 17.2 tons/day trigger for a fumigant allowance program would not be exceeded, assuming that 2006 had the worst-case emissions.

The proposed product VOC emission potentials (percent) of each active ingredient are based on achieving certain target VOC emission reductions and availability of products with low emission potentials. DPR proposes to set a separate emission potential percentage for each active ingredient affected. DPR would designate each active products complying with the emission potential percentage as low-VOC and products not complying as high-VOC. Products with inactive registrations will be designated as high-VOC.

The product emission potential percentage used to designate a low-VOC or high-VOC has a much smaller impact on nonfumigant VOC reductions compared to the active ingredients or crops included in the restrictions. Although there are products with lower emission potential percentages, it is not necessary to set the product percentage at the lowest emission percentage available because DPR is able to achieve the necessary reductions. Additionally, the market disruptions will be minimized because this will designate products from multiple registrants as low-VOC. DPR can make the emission potential limits more stringent in the future if needed. These nonfumigant VOC restrictions will not result in the prohibition of any active ingredients in the San Joaquin Valley.

- Renumber Section 6452.4 to 6881 and amend - Annual Volatile Organic Compound Emissions Inventory Report.

Currently, DPR bases the fumigant emission limits on the most current annual emission inventory report. The report includes all the analysis of pesticide VOC emissions, emission potential, and regulatory strategies that will be imposed in the upcoming year to reduce VOC emissions. The report (the emission inventory and all the factors--emission potentials, emission ratings, and analyses) are subject to a 45-day public comment. Although the emissions inventory ensures that annual tracking of nonfumigant pesticide emissions are part of and accounted for in the strategy to reduce pesticide VOC, the proposed amendments will include additional restrictions and requirements on nonfumigant products. It would be more appropriate to place the requirements of the report in a more general Chapter (Chapter 2. Environmental Protection, Subchapter 2. Air, Article 2. Volatile Organic Compounds).

The proposed changes will require the Director to include in this report the analyses of nonfumigant products with agricultural uses containing abamectin, chlorpyrifos, gibberellins, or oxyfluorfen as the primary active ingredients. This would include establishing a list of low-VOC and high-VOC products, and restrictions and prohibitions that would be imposed if necessary to reduce the VOC emissions in the San Joaquin Valley ozone NAA.

Additionally, there could be an instance when an agricultural use product may be registered after the release of the Annual VOC Emissions Inventory Report. If the Director determines that the product is a low-VOC, proposed subsection (c) would allow the Director to list the product in a supplemental report and post it on the Department's Web site. This would make the additional low-VOC product available for use since proposed section 6884(b) would prohibit use of a product not listed as a low-VOC during peak ozone season.

- Adopt Section 6883 - Pest Control Adviser Recommendation Requirements in the San Joaquin Valley Ozone Nonattainment Area.

This proposed section would prohibit the operator of the property from applying a high-VOC nonfumigant product specified in section 6881 during May 1 through October 31 to alfalfa, almonds, citrus, cotton, grapes, pistachios, and walnuts unless they have obtained a written recommendation of a licensed PCA regardless if the VOC emission limit has been exceeded.

Currently, a PCA recommendation is optional for all pesticides. PCAs must pass an examination and take continuing education courses to receive and maintain their license. This is to ensure that persons recommending the use of pesticides are knowledgeable in their safe use. A PCA is a professional who will be more knowledgeable and provide consistency in determining when a high-VOC product can and cannot be used. As proposed in section 6558, PCAs would be prohibited from recommending a use in violation with 6884. This would also provide the PCA an opportunity to look at alternative measures to voluntarily recommend low-VOC products. Requiring a PCA recommendation along with the licensed pest control dealer requirements in sections 6557 and 6886 will add another level to ensure compliance.

The operator of the property must retain the written recommendation for two years after the application occurs. This is consistent with other record keeping requirements.

- Adopt Section 6884 - San Joaquin Valley Ozone Nonattainment Area Use Prohibitions.

Since the high-VOC restrictions would not be triggered until the Annual VOC Emissions Inventory Report is finalized in March or April, high-VOC products could be purchased without restrictions until that time. However, the prohibitions on high-VOC products with agricultural uses would still be in effect by May 1. DPR proposes the following use prohibitions to achieve the needed VOC reductions in the San Joaquin Valley NAA from nonfumigants if the VOC emissions exceed the trigger.

Abamectin, chlorpyrifos, gibberellins, and oxyfluorfen products are used for several dozen crops. The top ten crops account for more than 96 percent of the emissions from these pesticide products in the San Joaquin Valley ozone NAA and approximately 92 percent of the agricultural applications are applied to alfalfa, almonds, citrus, cotton, grapes, walnuts, and pistachios. Most of the minor crops have low emissions and the efficacy of the low-VOC products is uncertain in many cases.

In proposed subsection (a), no person may apply a nonfumigant product that has been designated as a high-VOC on the following crops: alfalfa, almond, citrus, cotton, grape, pistachio, and walnut. In

the memorandum *Evaluation of Options and Recommendations for Reducing Volatile Organic Compound Emissions from Nonfumigant Pesticides*, listed as a document relied upon, Table 11a-b shows estimated VOC reductions from restrictions on various combinations of these active ingredients, crops, and exceptions for 2006. Table 12a-b shows the estimated VOC emissions for 2006 resulting from the various restriction scenarios. Even with exceptions, when combined with the fumigant requirements, the nonfumigant restrictions should reduce the pesticide VOC emissions for the worst-case year (21.3 tons per day in 2006) to a level less than the trigger for a fumigant limit (17.2 tons per day). The values in Tables 11 and 12 were calculated by assuming each application in 2006 that used a high-VOC product instead used a product with an emission potential at the emission potential limit.

Proposed subsection (b) would allow some exceptions for use of high-VOC products. Analysis by UC indicates that low-VOC products are not as effective as high-VOC products in some instances. Low-VOC products are not as effective for cotton aphids or it is difficult to apply the correct amount of low-VOC (dust/powder) gibberellins when using low application rates. There may be other situations where low-VOC products have uncertain efficacy or other problems, particularly for specialty crops. Additionally, if low-VOC products are required in all cases, growers and applicators would likely use a greater amount of product, offsetting any VOC emission reductions from the lower emission potentials. More importantly, the amount of active ingredient applied would likely increase. The health and environmental risk of a greater amount of active ingredient could easily outweigh the benefits of any VOC reductions that might be achieved. In proposed subsection (b)(1), use of a high-VOC chlorpyrifos product to control aphids on cotton, and in proposed subsection (b)(2), use of high-VOC gibberellins products when applied at an application rate of eight grams of active ingredient per acre or less are allowed.

Certain products and uses are exempted from registration under Section 18 or have a Special Local Need registration under Section 24(c) of the Federal Insecticide, Fungicide, and Rodenticide Act. These applications usually have low use because they are used to control unusual pests or for unusual crops. The efficacy of low-VOC products is uncertain for these atypical applications. Similarly, the U.S. Department of Agriculture (USDA), California Department of Food and Agriculture (CDFA), or CACs may apply or require pesticide applications to eradicate or control exotic pests. These agencies have extensive activities to prevent establishment of invasive pests that do not normally occur in California. If detected, federal and state laws require quarantines and other measures to contain and eradicate the pests. Pesticide applications soon after detection are often successful in avoiding greater pesticide use if the exotic pest becomes established. Low-VOC products may or may not be effective for exotic pests. In proposed subsections (b)(3), (4), (5), high-VOC products used under a Section 18; a Section 24(c); or under the direction of USDA, CDFA, or CAC to control, suppress, or eradicate pests would be allowed.

In proposed subsection (b)(6), DPR would allow high-VOC applications using precision spray technology meeting the criteria of the California Office of the Natural Resources Conservation Service's Environmental Quality Incentives Program. For example, "smart sprayers" use various sensing technologies to treat only the target plant or pest. The sprayer is automatically turned off when a target plant or pest is not detected. Smart sprayers apply less pesticide product to achieve the same efficacy. This has the same effect as using a low-VOC product, with the added benefit of

applying less active ingredient. Application of a high-VOC product with a precision sprayer would be allowed.

Proposed subsection (c) describes the criterion and method to end the prohibitions, if high-VOC prohibitions are triggered pursuant to section 6452.2(f). The prohibitions end if the amount of active ingredient applied declines sufficiently so that VOC emissions will be less than the trigger level. The amount of active ingredient applied is independent of the product. That is, a grower will apply the same amount of active ingredient whether he/she uses a low-VOC product or a high-VOC product. The amount of VOCs emitted with each pound of active ingredient varies depending on which product(s) are applied. When the high-VOC prohibitions are in effect, 100 percent of the applications must use a low-VOC product (unless one of the exceptions in (b) applies). When the high-VOC prohibitions are not in effect, either low-VOC or high-VOC products can be used, so the total VOC emissions consist of some combination of low-VOC and high-VOC products (e.g., 50 percent low-VOC and 50 percent high-VOC). DPR will use a series of two-step calculations to estimate what the VOC emissions would have been if the high-VOC prohibitions were not in effect (hypothetical emissions). For each combination of active ingredient and crop included in the high-VOC prohibitions, DPR will first divide the pounds of VOCs by the pounds of active ingredient for the year prior to the prohibitions. This is a measure of the pounds of VOCs emitted in the year without prohibitions for each pound of active ingredient applied. Second, DPR will multiple this VOC emission value by the pounds of active ingredient applied during the year high-VOC prohibitions were in effect. This is the hypothetical emission for the active ingredient and crop combination. By totaling these hypothetical emissions for all of the active ingredient/crop combinations in the year with restrictions, and adding the actual emissions for all other active ingredients and crops, the total hypothetical emissions are determined.

As an example, assume the following conditions for 2016:

- High-VOC prohibitions were not in effect for 2013
- High-VOC prohibitions were in effect for 2014 and 2015
- VOC emissions from abamectin products applied to almonds were 100,000 pounds in 2013
- The amount of abamectin active ingredient applied to almonds was 5,000 pounds in 2013
- VOC emissions from abamectin products applied to almonds were 50,000 pounds in 2014
- The amount of abamectin active ingredient applied to almonds was 4,000 pounds in 2014

In 2016, DPR would make the following calculation of hypothetical VOC emissions for abamectin/almond applications that occurred in 2014:

$$80,000 \text{ hypothetical lbs VOC in 2014} = \frac{100,000 \text{ lbs VOC in 2013}}{5,000 \text{ lbs active ingredient in 2013}} \times \frac{4,000 \text{ lbs active ingredient in 2014}}{1}$$

- Adopt Section 6886 - Dealer Responsibilities for the San Joaquin Valley Ozone Nonattainment Area.

As discussed in proposed section 6577 on page 5 of this ISR, prohibitions and restrictions on high-VOC products may be in effect for some years, but not others. This proposed section would require all licensed pest control dealers selling a high-VOC product with agricultural uses specified in the Annual VOC Emissions Inventory Report to provide VOC information when sale is made to or for

the operator of the property with an operator identification number issued by a CAC in the San Joaquin Valley ozone NAA. The specific VOC information required is in section 6577.

CONSULTATION WITH OTHER AGENCIES

DPR consulted with CDFA during the development of the text of proposed regulations, as specified in FAC section 11454, and the February 6, 1992, Memorandum of Agreement that was developed per FAC section 11454.2.

Additionally, DPR consulted with other agencies including USDA, U.S. EPA, California Air Resources Board, the Office of Environmental Health Hazard Assessment, the Department of Toxic Substances Control, the State Water Resources Control Board, the California Department of Public Health, Cal/Recycle, the San Joaquin Valley Air Pollution Control District, CACs, and University of California during the development of the proposed regulations.

ALTERNATIVES TO THE PROPOSED REGULATORY ACTION

DPR has not identified any feasible alternatives to the proposed regulatory action that would lessen any adverse impacts, including any impacts on small businesses, and invites the submission of suggested alternatives. DPR considered products containing other active ingredients, but none are consistently major contributors to VOC emissions in the San Joaquin Valley ozone NAA, and the low-VOC alternatives have greater agricultural impact. DPR considered other crops/sites, but they have lower VOC contribution in the San Joaquin Valley ozone NAA, and the agricultural impact is uncertain. Additionally, compliance and enforcement are problematic because some use occurs on non-production agricultural sites (e.g., rights of way). DPR considered prohibiting use of high-VOC products at all times, but this would result in agricultural impacts to achieve VOC reductions when they are not needed. DPR considered other methods to enforce the high-VOC prohibitions, such as designating additional restricted materials or other means of enforcement by CACs. This would increase the workload for CACs, and ensuring that all affected growers are aware of the requirements is problematic. CACs do not routinely interact with all growers, but all growers must purchase pesticide products from licensed pest control dealers. Requirements on pest control dealers is the most effective method to ensure all affected growers are informed of the requirements.

ECONOMIC IMPACT ON BUSINESSES

The proposed regulations will not have a significant adverse economic impact upon business. The document relied upon to make this determination is listed in the “Documents Relied Upon” section of this ISR and is available from DPR.

ECONOMIC IMPACT ASSESSMENT PURSUANT TO SECTION 11346.3(b)

Creation or Elimination of Jobs within the State of California: The proposed action would restrict the use of some products if the emission limit is triggered in the San Joaquin Valley ozone NAA, but chemical pest management will shift to other products to accomplish the same pest

management purpose. There will be no reduction in applications, and therefore no creation or elimination of jobs.

Creation of New Business or the Elimination of Existing Businesses within the State of California: The proposed action would restrict the use of some products if the emission limit is triggered in the San Joaquin Valley ozone NAA, but chemical pest management will shift to other products to accomplish the same pest management purpose. The additional cost faced by producers should not significantly affect their operations or have a significant adverse economic impact on the sector.

The Expansion of Businesses Currently Doing Business within the State of California: The proposed action would restrict the use of some products if the emission limit is triggered in the San Joaquin Valley ozone NAA, but chemical pest management will shift to other products to accomplish the same pest management purpose. There will be no reduction in applications, and therefore no expansion of businesses currently doing business with the State of California.

The Benefits of the Regulation to the Health and Welfare of California Residents, Worker Safety, and the State's Environment: The federal Clean Air Act requires each state to submit an SIP for achieving and maintaining federal ambient air quality standards for ozone. California's SIP contains an element to reduce pesticidal sources of VOCs. VOCs contribute to the formation of ground-level ozone, which is harmful to human health and vegetation when present at high enough concentrations. The adoption of these proposed regulations would assure that smog-producing emissions from pesticide use in the San Joaquin Valley ozone NAA will not exceed the California SIP goal, reducing the ozone level that may be harmful to human health and vegetation when present at high concentration. Adoption of these regulations will provide a benefit to public health and the environment by continuing to reduce VOC emissions in the San Joaquin Valley ozone NAA.

IDENTIFICATION OF ANY SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECT THAT CAN REASONABLY BE EXPECTED TO OCCUR FROM IMPLEMENTING THE PROPOSAL

DPR's review of the proposed action showed that no significant adverse effect to California's environment can reasonably be expected to occur from implementing the proposal. Therefore, no alternatives or mitigation measures are proposed to lessen any significant adverse effects on the environment.

EFFORTS TO AVOID UNNECESSARY DUPLICATION WITH FEDERAL REGULATIONS

The proposed regulatory action does not duplicate or conflict with any regulations contained within the CFR. There are no regulations within the CFR that address this issue.

As noted in this Initial Statement of Reasons, the federal Clean Air Act requires each state to submit a SIP for achieving and maintaining federal ambient air quality standards, including the standard for ozone. In 1994 (and revised in 2007 and 2009), the Air Resources Board and DPR developed a plan to reduce pesticidal sources of VOCs in NAAs as part of the California SIP to meet the ozone standard.

DOCUMENTS RELIED UPON

1. Evaluation of Options and Recommendations for Reducing Volatile Organic Compound Emissions from Nonfumigant Pesticides. March 26, 2012. Memorandum from Randy Segawa, Pam Wofford, Rosemary Neal, and Frank Spurlock to Dave Duncan, Environmental Program Manager, Environmental Monitoring Branch, DPR.
2. Emulsifiable Concentrate Alternatives Analysis. University of California Cooperative Extension. Revised March 2012.
3. Proposed Exemptions to San Joaquin Valley Ozone Nonattainment Area Use Restrictions. Robert Van Steenwyk, UC Berkeley, and Karen Klonsky, UC Davis. March 2012.
4. Annual Report on Volatile Organic Compound Emissions from Pesticides: Emissions for 1990-2010. Department of Pesticide Regulation, Environmental Monitoring Branch. Sacramento. March 2012.
5. Agricultural Pest Control Advisory Committee Minutes, November 17, 2012 and Draft February 14, 2012.
6. Economic Analysis of Proposed Regulations and Amendments to Reduce Volatile Organic Compound Emissions. California Environmental Protection Agency, Agencywide Economic Studies Section, Air Resources Board. Memorandum from Tom Rosen-Molina to Linda Irokawa-Otani, DPR Regulations Coordinator. March 9, 2012.